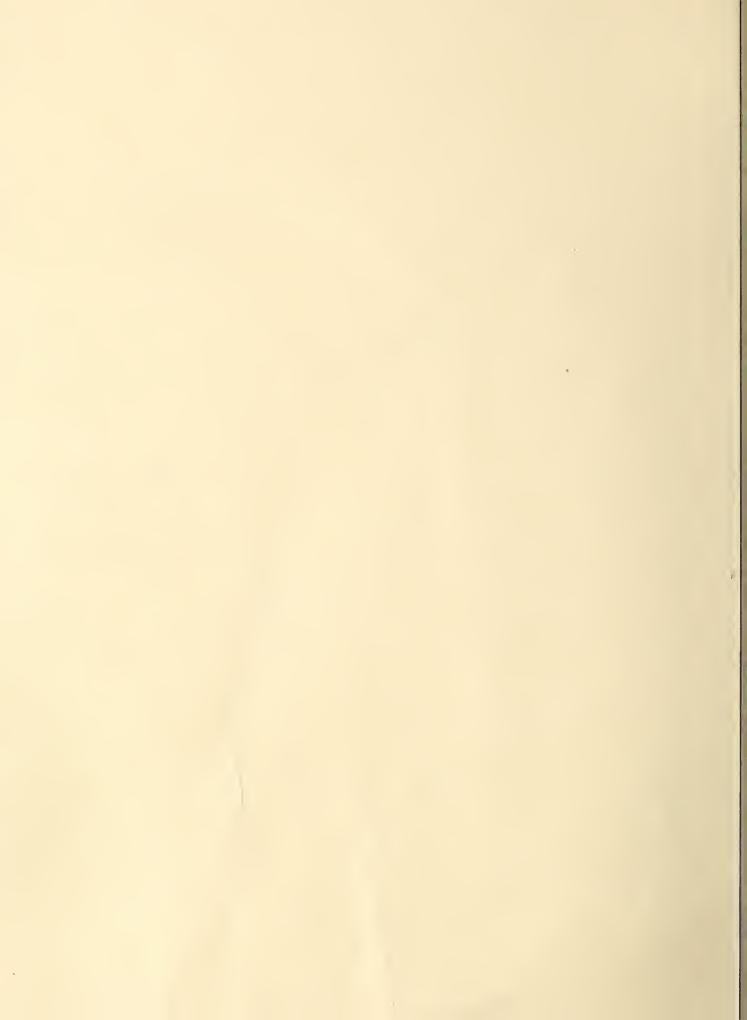
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Tongass National Forest

R10 - MB - 389a

May 1999



Sea Level Timber Sale

Record of Decision and Summary



Acronyms

ADF&G Alaska Department of Fish and Game
AFHA Aquatic Fish Habitat Assessment
AFRPA Alaska Forest Resources and Practices Act
AHMU Aquatic Habitat Management Unit
ANCSA Alaska Native Claims Settlement Act

ANILCA Alaska National Interest Lands Conservation Act

Allowable Sale Quantity **ASQ** One Billion Board Feet **BBF** Bureau of Land Management BLM Best Management Practice **BMP** Council on Environmental Quality CEQ CFI Continuous Forest Inventory CFL Commercial Forest Land Code of Federal Regulations CFR

CZMA Coastal Zone Management Act of 1976

DBH Diameter at Breast Height
EIS Environmental Impact Statement
EPA Environmental Protection Agency
EVC Existing/Expected Visual Condition

FSH Forest Scrvice Handbook FSL Forest Science Lab FSM Forest Service Manual

GIS Geographic Information System

IDT Interdisciplinary Team

IMEG Interagency Monitoring and Evaluation Group

ITS Individual-Tree Selection KPC Ketchikan Pulp Company KV Knutsen-Vandenberg Act

LSTA Logging System Transportation Analysis

LTF Log-Transfer Facility
LUD Land-Use Designation
LWD Large Woody Debris
MBF One Thousand Board Feet
MIS Management Indicator Species

MM Maximum Modification
MMBF One Million Board Feet
MMI Mass-Movement Index

NEPA National Environmental Policy Act NFMA National Forest Management Act NMFS National Marine Fishcries Service

NOI Notice of Intent

NPDES National Pollution Discharge Elimination System

P Primitive PR Partial Retention

R Retention

RM Roaded Modified

RMA Riparian Management Area

RN Roaded Natural ROD Record of Decision

ROS Recreation Opportunity Spectrum SHPO State Historic Preservation Officer SIS Silvicultural Information System SPM Semi-Primitive Motorized SPNM Semi-Primitive Nonmotorized

SRI Sediment Risk Index

TPIT Tongass Plan Implementation Team
TLMP Tongass Land Management Plan

TRUCS Tongass Resource Use Cooperative Survey

TTRA Tongass Timber Reform Act

USDA United States Department of Agriculture
USDI United States Department of the Interior
USFWS United States Fish and Wildlife Service

VCU Value Comparison Unit VQO Visual Quality Objective WAA Wildlife Analysis Area



File Code: 1950

Date: May 3, 1999

Dear Reader:

Attached is the Record of Decision (ROD) for the Sea Level Timber Sale. If you requested complete documentation of this decision, the following items should be found in the package:

- 1. Record of Decision and Summary
- 2. Final Environmental Impact Statement (Volume I)
- 3. Final Environmental Impact Statement, Appendices A to G (Volume II)
- 4. Map Package (two large scale maps)
 - (a) Existing Condition and Unit Pool
 - (b) Record of Decision Map

If you elected to receive the summary set of documents, the package should include only the ROD, Summary, and Maps. Copies of the entire Final EIS are available for review at Forest Service Offices in Ketchikan, Craig, and Thorne Bay. Copies have also been sent to libraries throughout Southeast Alaska.

The ROD documents my final decision on the selection of an alternative, and the factors considered in reaching the decision. The effective date of implementation for the decision and the Notice of Rights of Appeal are also specified in the ROD.

I want to thank those of you who took the time to review and comment on the Draft Environmental Impact Statement and also those who participated in the Subsistence Hearings. Your interest in the management of the Tongass National Forest is appreciated.

Sincerely,

CAROL J. JORGENSEN

Carold-Jorge

Assistant Forest Supervisor





Appendix 1 - Unit Cards

Appendix 2 - Road Cards

Appendix 3 - Response to Comments

and Summary





Record of Decision Sea Level Timber Sale

Introduction

This Record of Decision (ROD) documents my decision to select an alternative from the Sea Level Timber Sale Environmental Impact Statement (EIS). This Decision includes the specific location and design of timber harvest units and roads, protection requirements for harvesting timber, and reconstruction of the Elf Point log-transfer facility (LTF). The timber harvest is intended to be sold in several sales of varying sizes. In addition, this Decision includes the implementation of road management objectives such as culvert replacement, maintenance and road closures. Whether or not to approve a nonsignificant Tongass Land Management Plan (TLMP) amendment by moving the Mop Point Small Old-Growth Reserve is also a part of this Decision.

Background

The purpose and need for this Project is to implement direction contained in the revised TLMP to help provide a sustained level of timber supply to meet annual and TLMP planning cycle market demand. The purpose and need is also to provide local employment in the woods products industry, consistent with the multiple use and sustained yield of Forest resources. Another objective is to provide timber volume that will contribute to a 3-year timber supply under the Tongass National Forest timber-sale program. The alternatives and actions considered are possible approaches to meeting this purpose and need. The environmental analysis documented in the Final Environmental Impact Statement (EIS) for the Sea Level Project was conducted under the guidelines of the National Environmental Policy Act (NEPA) process. The NEPA was designed to help insure that I make the most informed decision possible for this proposed Project. The Sea Level Project is expected to provide approximately 51 million board feet (MMBF) of timber, under the guidance of the TLMP.

The Sea Level Project takes place on Timber Production, Modified Landscape, and Scenic Viewshed Land-Use Designations (LUDs). Nearby LUDs include nondevelopment LUDs, primarily Semi-remote Recreation, Old-Growth Habitat, and Wild and Scenic Rivers. A comparison of the TLMP desired future condition for the Timber Production and Modified Landscape LUDs against the existing condition shows the opportunity to harvest suitable stands to meet TLMP objectives of providing saw timber and other wood products contributing to local and regional economies of Southeast Alaska. The TLMP identifies similar opportunities in the Scenic Viewshed LUD.

Section 101 of the Tongass Timber Reform Act of 1990 (TTRA) directs the USDA Forest Service "... to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle." Section 101 of the TTRA specifies that Forest Service efforts to seek to meet market demand are subject to

appropriations, National Forest Management Act requirements, and other applicable laws. Providing a timber supply from the Tongass for sustained local wood products industry employment and related economic and social benefits helps meet the TLMP objective of supporting a wide range of natural-resource employment opportunities within Southeast Alaska's communities.

There is demonstrated mill capacity in the region to process the logs, if a supply of timber is available. There is a projected need for the timber from this Project Area (see Final EIS, Appendix A), to provide for stability within fluctuating market demand. A substantial component of the economy of Southeast Alaska is dependent on the timber industry.

Public scoping began with publication of the Notice of Intent in the Federal Register on May 9, 1997. This ROD and the Final EIS disclose the environmental effects of the alternatives considered and document my decision to authorize the Project and associated activities.

In developing the Final EIS and this ROD, I recognize that less than complete knowledge exists about many relationships and conditions of wildlife, fish, forests, jobs, and communities. The ecology, inventory, and management of a large forest area is a complex and developing science. The biology of wildlife species prompts questions about population dynamics and habitat relationships. The interaction between resource supply, the economy, and communities is not an exact science.

The data and level of analysis used in the Final EIS were commensurate with the importance of the possible impacts (40 Code of Federal Regulations (CFR) 1502.15). When encountering a gap in information, the interdisciplinary team (IDT) took one of two approaches: (1) they collected the missing information or conducted the analysis necessary to identify important relationships, or (2) they concluded that, although the missing information would have added precision to estimates or better specified a relationship, the basic data and central relationships are sufficiently established in the respective sciences so that new information would be very unlikely to reverse or nullify understood relationships. As such, information missing from the Final EIS was not determined to be essential for a reasoned choice among the alternatives.

Decision

This Record of Decision documents my decision to implement activities in the Sea Level Project Area. My decision encompasses the following:

- the estimated acreage to be treated in this Project Area in multiple timber sales;
- the location and design of timber harvest units including reserve areas;
- the location and design of road systems;
- the location and design of the log-transfer facilities;
- standards and guidelines, mitigation measures, and enhancement opportunities for resources other than timber;
- whether there may be a significant restriction on subsistence use and if so, related findings and measures to minimize impacts on subsistence users;
- approval of a nonsignificant TLMP amendment moving the small old-growth reserve from Mop Point, at the north end of Thorne Arm, to the narrow isthmus just south of Gnat Cove;
- implementation of a comprehensive road and culvert maintenance program based on road-condition surveys conducted in the Project Area; and
- · road management objectives including closures for resource protection.

It is my decision to choose Alternative 7, as modified in this Record of Decision, as the Selected Alternative.

This decision meets the purpose and need for the Project, is consistent with the TLMP, responds to issues raised during scoping, analysis, public responses to the Draft EIS, and subsistence comments.

Modifications

I have decided to not construct road 8437000 to Units 250 and 168 south of Snipe Point.

Description of Selected Alternative:

- 1. The Selected Alternative will harvest about 1,828 acres of commercial forest land (CFL) to meet the requirements of the Tongass National Forest timber-sale program. This specified harvest will provide approximately 47 MMBF of sawlog and utility volume and 4 MMBF of right-of-way (ROW) volume, for a total of 51 MMBF. Design features of approved harvest units are described in detail on the Unit Data Cards in Appendix 1 of the ROD.
- 2. The Selected Alternative includes the following silvicultural systems, even-aged system (clearcut) 177 acres, even-aged clearcut with reserves 923 acres, two-aged shelterwood with reserves 63 acres, and two-aged clearcut with reserves 665 acres. This is consistent with Forest Service Chief's policy to reduce the amount of clearcutting. The Selected Alternative places 1,006 acres into reserves. The two-aged shelterwood with reserves and clearcut with reserve prescriptions are intended to provide for stand structural diversity, maintain riparian habitat, maintain scenic quality, and leave young, vigorously growing trees. The impacts to residual trees will be minimized. The Unit Data Cards in Appendix 1 of the ROD provide specific direction for field layout to accomplish these objectives.
- 3. The Selected Alternative includes reconstruction of 14 miles of existing road, and construction of 29 miles of new road in order to access the specified timber harvest units. These numbers reflect the modification of Alternative 7 in the Selected Alternative. Appendix 2 of the ROD contains the Road Cards, with direction for the location of each road. The Road Cards list road segments and road management and access objectives for future management of the transportation system, including maintenance and closures. This ROD identifies mitigation measures authorized to reduce or eliminate adverse environmental effects of the timber harvest and road construction activities specified in the Selected Alternative.
- 4. The existing LTF located at Elf Point will be reconstructed and used to transfer logs to the water after timber harvest using the barge method. This is the currently permitted method. The Elf Point site is not conducive to rafting of logs. The LTF's located at Shelter Cove and Shoal Cove, which are currently under permit, will be used for the harvest units that are tributary to the Shelter Cove and Shoal Cove road systems.
- 5. Appendix E of the Final EIS includes descriptions of the enhancement opportunities for the Selected Alternative which are feasible following implementation of this action. These opportunities will be included in Sale Area Improvement plans developed in conjunction with the timber sale contract documents for each timber sale. Implementation of these opportunities is dependant upon funding.
- 6. Streams will receive buffers no less in width than those specified by the TLMP process group (TLMP Forest Plan, page 4-53) standards and guidelines, with one exception. The exception is in Unit 133, where a Class III alluvial fan received a modified buffer that resulted in a partial cut and the harvest of an additional 26 trees. This was based on a site-level watershed analysis that revealed that no fish habitat would be affected by timber harvest in the modified buffer, and that the stream process group objectives will be met.

- 7. I have amended the TLMP to move the small old-growth habitat reserve in Value Comparison Unit (VCU) 7560 from Mop Point to the vicinity of Units 171 and 172 (south of Gnat Cove). This decision reflects the recommendations of an interagency group of biologists from the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service and the Forest Service who reached consensus on this new location during a field review on 6/10/98. The ROD map shows the reserve in its new location and also has the previous location outlined.
- 8. Units 250 and 168 south of Snipe Point will be harvested using a helicopter yarding system. Information collected through road condition surveys identified extensive maintenance concerns on the existing road leading to these two units. Pre-haul maintenance costs for approximately 4 miles of existing road and construction of 1.1 miles of new road would exceed the value of the timber to be harvested. Of the acreage in the Selected Alternative, approximately 6 percent is scheduled to be helicopter logged.
- 9. I have determined that the effects of the Selected Alternative on the subsistence use of these resources are minimal. The direct effects from the action alternatives in the Sea Level Project Area do not present a significant possibility of a significant restriction of subsistence uses of deer, black bear, marten, wolf, otter, marine mammals, waterfowl, salmon, other finfish, shellfish, and other foods.

The potential foreseeable and cumulative effects from implementing the TLMP through the entire rotation period, including the no-action and action alternatives in the Project Area, do not present a significant possibility of a significant restriction of subsistence uses of deer, bear, marten, wolf and other resources.

As a result, I have determined that: (1) these actions are necessary, and consistent with sound management of public lands, (2) the Selected Alternative involves the minimum amount of public land necessary to accomplish its purpose, and (3) reasonable measures to minimize impacts on subsistence uses and resources have been adopted to the extent practicable while still meeting the purpose and need for this Project.

Reasons for Decision

- 1. In making my decision, I worked to assure consideration of all issues and to take into account the competing interests and values of the public. There were many divergent public, personal, and professional opinions expressed during this EIS. The decision will probably not completely satisfy any one particular group or individual. However, I considered all views, and I believe the decision I have made is reasonable. The Selected Alternative provides a beneficial mix of resources for the public, within a framework of existing laws, regulations, policies, public needs and desires, and the capabilities of the land, while meeting the stated purpose and need for this Project.
- 2. My decision to implement this Selected Alternative conforms with the TLMP and sound National Forest management. I have considered the need to help provide a sustained level of timber supply to meet annual and TLMP planning cycle market demand, and to provide diverse opportunities for natural resource employment, consistent with multiple use and sustained yield of all renewable forest resources. Timber sales implemented through this Project will help meet Southeast Alaska timber supply needs.
- 3. In the Selected Alternative I have amended the TLMP to relocate the small old-growth habitat reserve in VCU 7560, from Mop Point to the vicinity of Units 171 and 172 (south of Gnat Cove, see ROD map). This decision preserves options in case the encumbered lands in Carroll Point Medium Old-Growth Reserve are conveyed to State or private lands. The new location encompasses the best nonfragmented habitat remaining in the VCU. It also provides a higher quality travel corridor between the Carroll Point Medium Old-Growth Reserve

- and other old-growth reserves. Relocating this small old-growth habitat reserve results in a reduction in the suitable timber base by 315 acres. Additional information is contained in the Nonsignificant TLMP amendment (Appendix 3).
- 4. The Selected Alternative harvests 51 MMBF of timber, which would contribute to meeting market demand for timber and provide opportunity for sales of different sizes.
- 5. The Selected Alternative will provide the highest economic return to the Federal government while meeting the previously mentioned resource objectives. The Selected Alternative provides a net return of \$91 per thousand board feet (MBF) as indicated by the midmarket analysis. The midmarket analysis is within the normal range of high and low markets for the past few years; see the Timber and Silviculture section in Chapter Three of the Final ElS, to see this range and how the current market ranks within this range.
- 6. The Selected Alternative reconstructs the Elf Point LTF. This LTF needs to have rotten logs in the bulkhead replaced and to update drainage patterns to meet new standards.
- 7. The Selected Alternative meets the visual quality objectives (VQOs) as specified from the priority travel routes and key viewsheds. These priority travel routes and use areas include: (1) Carroll Inlet; (2) Thorne Arm; (3) Saddle Lakes; and (4) the Fish Creek Cabin at the mouth of Fish Creek. Actual viewpoints used in the analysis for meeting the VQOs for each viewshed are specified in Chapter 3 of the Final EIS.
- 8. The Selected Alternative completes the maintenance identified as critical through the road condition surveys. The Roads section in Chapter 3 of the Final EIS contains specific information from the surveys and actions to be taken. An example is that approximately 11 miles of spawning and rearing habitat for anadromous and resident salmonids will be made available upon replacement of existing culverts with structures that allow for proper fish passage, upstream of the crossings.
- 9. The Selected Alternative will close all newly constructed roads with the exception of approximately 10 miles of arterial road in the Elf Point area. Overall approximately 50 percent of the roads, existing or new construction, used to implement this Project will be closed. An additional 10.4 miles of existing road not used in this Project will be closed.
- 10. The Selected Alternative utilizes 103 acres of helicopter yarding to accomplish the goals and objectives of resource protection as well as to help mitigate some watershed, wildlife, and visual resource concerns. Of the acreage in the Selected Alternative, approximately 6 percent is scheduled to be helicopter logged.
- 11. The Selected Alternative, implements the TLMP American Marten Standard and Guideline. It places 1,006 acres into reserves and harvests 63 acres using two-aged shelterwood with reserves and 665 acres of two-aged clearcut with reserves. There are approximately 19,821 acres of high-value marten habitat in the Project Area. Those in VCUs with less than 33 percent of the productive old growth harvested, retain 10 to 20 percent of the original stand structure. The VCU 756, with over 33 percent of the productive old growth harvested, retains an average 30 percent canopy closure to meet TLMP Marten Standards and Guidelines.
- 12. The Selected Alternative utilizes the comprehensive Watershed Analysis completed for the Project along with site-specific analysis to modify one Riparian Management Area (RMA) buffer (Unit 133). This allowed a partial cut harvest to remove trees while insuring that stream process group objectives have been met.

How Issues are Addressed

In the following summary, I detail how significant issues are addressed within the Selected Alternative.

Issue 1

Timber Harvest Economics and Supply

This issue reflects the concerns for a stable timber supply and the issue of economically viable timber sales. The Selected Alternative includes the following silvicultural systems: even-aged system (clearcut) 177 acres, even-aged clearcut with reserves 923 acres, two-aged shelterwood with reserves 63 acres, and two-aged clearcut with reserves 665 acres. The Selected Alternative also includes 1,006 acres of reserves. This is consistent with the Forest Service Chief's policy to reduce the amount of clearcutting.

Of the three action alternatives, Alternative 7 produced the highest stumpage rate. The Selected Alternative (Alternative 7) produces the highest midmarket stumpage rate of \$91 per MBF. Actual returns from the harvest will be determined for each timber offering based on current market conditions as determined through the timber sale appraisal and subsequent bids for individual timber sales. Alternative 5 incurred the highest logging costs (\$453 per MBF) and the lowest midmarket stumpage value estimate (\$72 per MBF).

The Sea Level Project range of alternatives would harvest from 22 MMBF (Alternative 5) to 77 MMBF (Alternative 2).

Highlights of the Selected Alternative include the following:

- It does the best job of balancing resource protection and timber supply, while still
 providing economically viable timber sales.
- It produces the highest midmarket estimated stumpage rate (\$91 per MBF)
- It produces 51 MMBF of economically viable timber to help support the local forest products industry.

Issue 2

Fish Habitat, Water Quality, and Soils

This issue reflects concerns about sediment transport, oversteepened slopes, and fish habitat. There is no measurable effect on water quality or fisheries production by any of the timber harvest or associated activities proposed by any of the action alternatives. All alternatives meet the requirements and intent of the Clean Water Act. Implementation of Project specific stream buffers, which meet or exceed the Tongass Timber Reform Acts (TTRA's) requirement to provide a minimum 100-foot buffer on Class I streams and Class II streams flowing directly into Class I streams, will effectively protect stream channels from proposed timber harvest and road construction. Adherence to Best Management Practices (BMPs) outlined in the Soil and Water Conservation Handbook (Forest Service Handbook 2509.22) during the design of units and roads will minimize the potential effects to fish as well.

The Sea Level Project and Watershed Analyses implement the recommendations applicable to project-level planning presented in the TLMP. Site-specific BMPs were selected to minimize the potential for impact to fish habitat. These site-specific BMPs are noted on the individual Unit Design and Road Cards in ROD Appendix 1 and 2. The TLMP Riparian Management Area (RMA) buffers are implemented on all Class I, II, and III streams in the Project Area with the exception of 1 stream in Unit 133. This activity within the buffer is documented with a site-specific analysis that tiers to the Watershed Analysis completed for this Project and maintains all process group objectives for this stream.

Fish-habitat capability models are used to estimate the effects of timber harvest on the capability of streams to provide habitat for selected species of salmon and trout. Because there are many factors which influence fish populations—including commercial/sport harvest, oceanic conditions, and predation—these computer models provide only relative measures of

habitat capability. These models indicate that there is no significant direct change in habitat capabilities.

The majority of very high mass-movement index (MMI) soils have been removed from the timber base. Most sites retained in the unit pool are small inclusions or mismapped. These sites have been examined by a professional soil scientist as part of unit reconnaissance.

The Painted Creek and Sea Level Creek watersheds were evaluated for sediment delivery and depositional potential using a watershed-level analysis. The watersheds were divided into sub-basins and reaches. Sediment transport and deposition indices were developed based upon watershed morphology, discharge, and potential sediment sources.

Results of this sediment transport and deposition risk assessment for roads and units in the action alternatives indicate that Alternatives 5 and 7 have a lower overall risk of sediment delivery to streams. Alternative 5 harvests the fewest acres, avoids new road construction, utilizes helicopter logging, and avoids most sensitive areas. Alternative 7 reduces overall risk by minimizing harvest unit location and road construction near stream courses in high risk sub-basins. Alternative 2 poses the highest risk of sediment delivery from road related sediment.

Highlights of the Selected Alternative include the following:

- It implements the standards and guidelines applicable to project-level planning presented in the TLMP.
- It reduces overall risk by minimizing harvest unit location and road construction near stream courses in high risk sub-basins.
- It avoids timber harvest on important Riparian Management Areas identified as part
 of the Watershed Analysis; this helps to protect riparian habitat and regulate
 streamflow.

Recreation and Scenery

This issue addresses concerns for outdoor recreation and scenery opportunities offered in and around the Sea Level Project Area and the effects timber harvest and transportation system development may have upon these opportunities.

The Selected Alternative locates timber harvest within previously unharvested areas and increases development within or near existing recreation places. Recreationists may choose to go elsewhere since there are similar recreation opportunities nearby. This shift in recreation opportunities is not expected to be significant.

All alternatives have similar effects on the distribution of the Recreation Opportunity Spectrum (ROS) within the Project Area.

The current recreation inventory for the Project Area contains 13 existing and 4 potential recreation places. Sixteen of these recreation places will not be directly affected by any of the proposed activities in the alternatives. The Selected Alternative harvests 2 units near, and constructs 2 miles of new road though the southern portion of the Sea Level Mine Recreation Place.

All alternatives meet the TLMP visual quality objectives (VQOs) as specified from the priority travel routes, use areas, and their viewsheds. Key viewsheds of these priority travel routes and use areas include: (1) Carroll Inlet, (2) Thorne Arm, (3) Saddle Lakes, and the (4) Fish Creek Cabin at the mouth of Fish Creek.

Issue 3

Highlights of the Selected Alternative include the following:

- It meets the VQOs as specified from the priority travel routes, use areas and their viewsheds.
- It avoids impacts to the Fish Creek Recreation Place and has a relatively low impact to the Carroll Inlet, Saddle Lakes and Thorne Arm viewsheds.
- It avoids impacts to the Gokachin, Low Lake, and Fish Creek Wild and Scenic river corridor through nonselection of Unit 46 and Unit 59.
- It the application of 1,000-foot estuary and beach fringe, anadromous stream buffers, and alternative harvest prescriptions serve to help screen management activities and protect recreational fisheries use.

Issue 4

Wildlife

This issues reflects the concern for the potential reduction in wildlife-habitat capabilities for key Management Indicator Species (MIS) found in the Sea Level Project Area. The Wildlife section in Chapter Three of the Final EIS discusses these concerns in detail.

The major effect on wildlife habitats in all action alternatives is the reduction of old-growth forest habitat. Impacts to other habitats were reduced by the interdisciplinary design of units prior to alternative formulation. All action alternatives result in impacts consistent with the implementation of the TLMP standards and guidelines.

Highlights of the Selected Alternative include the following:

- It incorporates the TLMP viable-population strategy of small, medium, and large old-growth reserves.
- It does not impact the Carroll Point Old-Growth Habitat Reserve and avoids harvest immediately adjacent to the medium old-growth reserve.
- It results in relatively few miles of new road construction, much of which is scheduled for closure.
- The application of 1,000-foot estuary and beach buffers, stream buffers, and deletions within unit boundaries to provide structure for marten will also serve to mitigate effects on important wildlife habitat.

Issue 5

Subsistence

This issue reflects public concern for the availability of wildlife, marine life, and plants for customary and traditional use by rural Alaska residents. Chapter 3 of the Final EIS evaluates the potential site-specific effects on subsistence that could result from implementing any of the proposed timber harvest and associated road construction alternatives.

The Tongass Resource Use Cooperative Survey (TRUCS) identified areas which are most heavily used by subsistence households. Based on the TRUCS, the Project Area contains no high or moderate use subsistence areas. High and moderate use is interpreted to mean greater than 50 households ever used the area for subsistence deer hunting.

I have determined that there is not a significant possibility of a significant restriction of subsistence use of deer, bear, marten, wolves or other resources in the Project Area. The effects of the Selected Alternative on the subsistence use of these resources are minimal.

Highlights of the Selected Alternative include the following:

- It results in 29 miles of new road construction, most of which is scheduled for closure (administrative or physical).
- It harvests primarily lower value wildlife habitat, as indicated by the relatively minor change in the current habitat capability indices.
- The application of 1,000-foot estuary and beach fringe, and stream buffers will also serve to help protect important subsistence use areas.

Issue 6

Social and Economic Effects

This issue reflects concern about economic development and employment, and about maintaining Alaskan life-styles. Social and economic effects are important to the Forest Service in its land-management decision-making. Land-use designations, scheduling of activities, and rural-development program decisions are all made with consideration of social and economic effects.

Implementation of the Selected Alternative authorizes harvest of approximately 47 MMBF of timber volume from harvest units, and 4 MMBF from road right-of-ways, for a total of 51 MMBF. Additionally, it authorizes new road construction on approximately 29 miles of road, and reconstruction of 14 miles of existing road. The Selected Alternative provides raw materials to support the local forest products industry. The Selected Alternative could provide, on the average, 61 forest product jobs annually over the next 4 years.

None of the alternatives are projected to have a measurable effect on income or employment opportunities in the sport or commercial fishing industries or those related economic sectors. Since little commercial recreational activity takes place in the Sea Level Project Area and because the alternatives affect only some of the inventoried Recreation Places, no significant impact is expected on employment and income opportunities in the recreation and tourism industry.

Highlights of the Selected Alternative include the following:

- It produces 51 MMBF of economically viable timber to help support the local forest products industry.
- It results in approximately 61 forest products jobs annually over the next 4 years.
- It funds received by the State of Alaska from the sale of timber on National Forest System Iands (25 percent) will continue to contribute funding for local public schools and road maintenance.

Issue 7

Marine Environment

This issue reflects the concern with bark deposition and other impacts related to construction and use of log-transfer facilities (LTFs). Direct effects to the marine environment occur only from development and use of LTFs, and are limited to the intertidal area affected by rock fill and either the intertidal or subtidal areas potentially affected by accumulations of bark debris.

A total of four potential LTF locations were considered for possible development. The maximum number of LTFs that would be utilized under any alternative is three. I have decided to use the three LTFs based on the interagency guidelines (Alaska Log-Transfer Facility Siting, Construction, Operation, and Monitoring/Reporting Guidelines). The U.S. Fish and Wildlife Service and the National Marine Fisheries Service staff conducted subtidal surveys at the sites that appeared to best meet the interagency guidelines. The subtidal survey reports and recommendations were completed and were used to further define which of the potential LTF locations were preferable. See the detailed alternative maps included with Sea Level Final EIS.

The Marine Environment section in Chapter of the Final EIS displays the number of LTFs used or developed, the total acreage of the structural embankment, and the estimated acres to be affected by bark deposition. The combination of the marine habitat covered by the

structural embankment and the area potentially covered by bark deposition represents the maximum loss of marine benthic habitat based on the limits imposed by the permits for each LTF.

The No-action Alternative would have no measurable additional effect on the marine environment, while Alternatives 2, 5, and 7 affect the marine system in a similar fashion. The loss of habitat is much less than 1 percent of the available marine habitat in the Project Area. Since all species identified along the subtidal (underwater) survey transects are common throughout Southeast Alaska, it is concluded that there would not be a significant impact to the marine environment from constructing (or continuing to use) LTFs at the proposed sites.

Highlights of the Selected Alternative include the following:

 All LTFs currently have marine dives conducted prior to construction, during use, and periodically following harvest to document and monitor effects on the marine environment.

Public Involvement

Public involvement has been instrumental in identifying issues, formulating alternatives, and influencing this decision. Public scoping and involvement activities for the Sea Level Project Area are listed in Chapter 1 and Appendix G of the Final EIS.

Notice of Intent (NOI)

A Notice of Intent was published in the Federal Register on May 9, 1997, when it was decided that an EIS was to be completed for the Project.

Public Mailing

On May 1, 1997, a letter providing information and asking for input was mailed to 623 individuals and groups that had previously shown interest in National Forest timber projects in Southeast Alaska. The mailing included 8 Federal agencies, 18 State agencies and divisions, 67 Native and municipal government offices, 213 businesses and other organizations and groups, as well as individual citizens. By the close of scoping, 49 responses to this initial mailing were received.

Local News Media

Announcements about the Project were printed in the Ketchikan Daily News, Island News, Wrangell Sentinel, Sitka Sentinel, Petersburg Pilot, and Juneau Empire. A scoping document describing the Project was placed in the May 10, 1997 Weekend Edition of the Ketchikan Daily News. A news release was issued to all Southeast Alaska news outlets (radio/TV/newspaper) on April 28, 1997, that described the Sea Level Project, and how the public could be involved.

Open-House Meetings

Two open-house public meetings were held during the scoping period to solicit comments.

Briefings/Consultation

Additional briefings were held with individuals and organizations from April 1997 through February 1998 to provide information and clarification on issues and alternatives. Consultation with Tribal, local, State and Federal government agencies also occurred during this time.

Preliminary Issues and Alternatives

A news release was issued on October 23, 1997, which resulted in an article regarding the Sea Level EIS and upcoming open interdisciplinary team (IDT) meeting in the October 29, 1997 issue of the Ketchikan Daily News. A letter, similar to the news release, was mailed on the same date to anyone who had submitted scoping comments. The Meetings and Brevities

section of the Ketchikan Daily News announced the open IDT meeting on October 30 and 31, 1997.

Availability of Draft EIS for Public Comment

Availability of the Draft EIS was announced in the Federal Register on June 12, 1998, with a deadline for public comment listed as August 7, 1998. Written or verbal comments from interested parties were collected during this minimum 45-day comment period.

Subsistence Hearings

Subsistence hearings on the Draft EIS were held in the communities of Saxman on July 16, 1998 at the Saxman Community Hall Annex and in Metlakatla, Alaska on August 1, 1998 at the Metlakatla City Council Chambers. Open houses to describe the analysis process and to answer public questions were held in conjunction with the subsistence hearings. Public comment on the Draft EIS was also accepted at that time. Dates, times, and locations were publicized in the local media.

Analysis and Incorporation of Public Comments

Public comments and subsistence comments have been analyzed and incorporated into the Final EIS. For an analysis of public comment and Forest Service response to public comment, see Appendix G of the Final EIS.

A letter was sent February 18, 1999 to interested parties to solicit public comment on the proposed change in the location of a small old-growth reserve. Two comments were received and were incorporated into this decision as appropriate.

The Final EIS has been filed with the Environmental Protection Agency and is available to the public.

Coordination with Other Agencies

From the time scoping was initiated, meetings and site visits with interested State and Federal agencies have occurred. Issues were discussed and information was exchanged.

Coordination meetings were held with the State of Alaska including the Department of Governmental Coordination, the Department of Fish and Game, and the Department of Environmental Conservation. The Alaska Coastal Management Plan (ACMP) consistency review process was initiated upon publication of the Draft EIS through the offices of the Alaska Division of Governmental Coordination.

An interagency team of biologists representing the Fish and Wildlife Service, Alaska Department of Fish and Game, and the Forest Service reviewed small old-growth reserves for location and function in the Project Area.

A Biological Assessment was prepared and sent to the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service as part of the Section 7 consultation under the Endangered Species Act.

The Final EIS identifies the agencies who were informed of and/or involved in the planning process (see the Distribution List in Chapter 4 of the Final EIS). See also the discussion of subsistence in the section entitled "Findings Required by Law", later in this ROD.

Alternatives Eliminated from Detailed Consideration

A number of alternatives were examined, but not considered for detailed study in this EIS. This section summarizes those alternatives and the rationale for not considering them further. For a more complete description of these alternatives, refer to Chapter 2 of the Final EIS.

Alternative A

Single Resource or Issue

Alternatives that focused solely upon one resource or issue were eliminated from consideration as implementable alternatives. While alternatives constructed around a single resource may not be implementable, the issue itself may still be significant. Each alternative is evaluated against all the significant issues.

Alternative B

Shelter Cove Road Connection

The proposed Shelter Cove road connection is a separate project independent of the Sea Level Project. The road link project is a reasonably foreseeable, but unconnected action, with the Federal Highways Administration being the lead agency. The preliminary preferred road connection alternative routes have been identified, and are located almost entirely outside the Sea Level Project Area. The two proposed actions appear to be connected because of the potential road locations and opportunity to haul harvested timber back to Ketchikan. The dissimilar time lines do not make the road connection available for the Sea Level Project. Preliminary analysis also indicates that log haul back to Ketchikan by a connecting route would be uneconomical.

Alternative C

No New Road Construction

Several commentators asked the Forest Service to minimize or avoid the construction of new roads within the Project Area by harvesting only timber that is accessible from existing roads. An alternative of this nature would not meet the intended purpose and need of the Project. It would not be possible to access much of the suitable timber within the Project Area without new roads. This would consequently result in concentration of harvest on existing roads and areas close to potential helicopter drop points. This alternative would also adversely affect future economics of the suitable acres farthest from the road system by isolating them.

Alternatives Removed Between Draft and Final EIS

Alternative 3

Emphasis

The emphasis of this alternative was to provide the greatest potential for economic timber harvest. The location of harvest units, selection of silvicultural prescriptions, logging systems, and transportation network is aimed at maximizing the appraised timber value. Following IDT analyses and deliberations, much of the emphasis and intent of Alternative 3 was incorporated into Alternative 7. It was also decided that to a large extent, Alternative 3 duplicated the emphasis and intent of Alternative 7 and was dropped from consideration and analysis in the Final EIS.

Alternative 4

Emphasis

The emphasis of this alternative was to meet the purpose and need while minimizing timber harvest in the Minx Flat area. Harvest avoided Minx Flats to maintain more connecting habitat between the Carroll Point Medium Old-growth Reserve and Misty Fiords National Monument, and to address marten concerns in VCU 7560. Alternative 4 also avoided harvest in the Sea Level Creek watershed. Following analysis, much of the emphasis and intent of

Alternative 4 was incorporated into Alternative 7. It was also decided that to a large extent, Alternative 4 duplicated the emphasis and intent of Alternative 5 and was dropped from consideration and analysis in the Final EIS.

Alternative 6

Emphasis

The objective of this alternative was to respond to public comments suggesting that only Shelter Cove units be considered for harvest at this time. The remainder of the Project Area would be deferred to emphasize other resource values. It was determined that this Alternative does not adequately respond to the stated purpose and need for the Project. The Alternative responds to an issue of a very narrow scope and therefore, was dropped from consideration and analysis in the Final EIS.

Alternatives Considered for Detailed Study

Four alternatives for making timber available to the timber industry from the Sea Level Project Area are considered in detail. Each alternative is consistent with the TLMP. This section provides a discussion of: (1) the emphasis or intent of each alternative; (2) various resource outputs associated with implementation. Alternatives are compared and summarized in Chapter 2 of the Final EIS.

Alternative 1 (No Action)

Emphasis

This alternative would not propose any new timber harvest from the Sea Level Project Area at this time. It does not preclude timber harvest from other areas at this time, or from the Sea Level Project Area at some time in the future. This alternative serves as a benchmark by which effects of the action alternatives can be measured.

Outputs

There are no timber harvest outputs associated with this alternative. Management for visual quality, wildlife habitat, and semi-primitive recreation outputs would continue as it currently exists.

Alternative 2

Emphasis

This alternative accelerates progress toward the desired future condition for timber production while meeting TLMP standards and guidelines. The maximum amount of timber volume is made available. This alternative is designed to harvest as much of the Project Area as possible in a manner that meets standards and guidelines.

Outputs

This alternative would schedule the harvest of 2,857 acres, in 105 units for approximately 71 MMBF. Of this, 437 acres are planned for two-aged shelterwood with reserves, 1,140 acres are planned for two-aged clearcut with reserves, 348 acres are planned for even-aged clearcut, and 932 acres are planned for even-aged clearcut with reserve. It schedules 282 acres for helicopter yarding. There are 1,391 acres planned to be placed in reserves in this alternative. To implement this harvest, 51 miles of new road would be constructed, and 24 miles of existing road would be reconstructed. Road clearing will yield an additional 6 MMBF of right-of-way (ROW) volume. Preliminary analysis indicates a net midmarket stumpage value of \$86 per thousand board feet (MBF).

The use of three existing LTFs will be required to implement this alternative. Floating or land-based logging camps and log sort yards are anticipated with the Shelter Cove, Shoal Cove, and Elf Point LTFs.

Alternative 5

Emphasis

The emphasis of this alternative is to meet the purpose and need while avoiding timber harvest in the Minx Flats, Elf Point, and Marble Creek areas. This alternative minimizes harvest in the Minx Flats area to address wildlife-habitat-connectivity concerns in that area.

Outputs

Alternative 5 schedules the harvest of 30 units totaling 20 MMBF, from 867 acres. Of this harvest, 49 acres are planned for two-aged shelterwood with reserves, 234 acres are planned for two-aged clearcut with reserves, 76 acres are planned for even-aged clearcut, and 508 acres are planned for even-aged clearcut with reserves. It schedules 54 acres for helicopter yarding. There are 406 acres planned to be placed in reserves in this alternative. This alternative requires the construction of 17 miles of new roads and 17 miles of reconstruction. Road construction clearing will yield an additional 2 MMBF of ROW volume. Preliminary analysis indicates a net mid-market stumpage value of \$72 per MBF.

The use of two existing LTFs will be required to implement this alternative. Floating or land-based logging camps are anticipated with the Shelter Cove and Shoal Cove LTFs.

Alternative 7

Emphasis

The objective of this alternative is to emphasize timber economics by harvesting stands with the greatest potential for economic return, while addressing wildlife-habitat connectivity concerns. The location of harvest units, and selection of silvicultural prescriptions, logging systems, and transportation network are aimed to maximize the appraised timber value. This approach emphasizes a positive net economic return for the Project by seeking to minimize logging and road construction costs. This entry proposes only limited helicopter timber harvest. This alternative attempts to minimize impacts to old-growth habitat, wildlife travel corridors, riparian habitat, and wetlands.

Outputs

Alternative 7 schedules the harvest of 68 individual harvest units, totaling 47 MMBF, from 1,828 acres. Of this harvest, 63 acres are planned for two-aged shelterwood with reserves, 665 acres are planned for two-aged clearcut with reserves, 177 acres are planned for even-aged clearcut, and 923 acres are planned for even-aged clearcut with reserves. There are 1,006 acres planned to be placed in reserves in this alternative. The alternative would require the construction of 30 miles of new road and 18 miles of reconstruction. Road clearing will yield an additional 4 MMBF of ROW volume. It schedules 43 acres for helicopter yarding. Preliminary analysis indicates a net mid-market stumpage value of \$91 per MBF.

The use of three existing LTFs will be required to implement this alternative. Floating or land-based logging camps and log sort yards are anticipated with the Shelter Cove, Shoal Cove, and Elf Point LTFs.

Environmentally Preferable Alternative

There is no single factor that can be used to determine which alternative is environmentally preferable. Maintaining the basic productivity of the land and the quality of life-style of the local residents are vitally important.

Alternative 1, the No-Action Alternative, would cause the least environmental disturbance and is therefore the environmentally preferable alternative. This is based on the comparison of all the alternatives shown in the Table 2-1 of Chapter 2 in the Sea Level Final EIS.

All alternatives considered in detail have varying levels of environmental effects depending upon the emphasis of the alternative. Alternative 5 would cause the least adverse environmental effects of the action alternatives. Alternative 7 has significantly fewer effects for most resources than Alternative 2 due to building less road, deferring harvest in significant old-growth blocks and corridors, and crossing fewer large streams. Alternative 7 also has significantly fewer effects than Alternative 2 for areas identified with subsistence use and fisheries concerns.

Planning Record

The planning record for this Project includes the Draft EIS, Final EIS, TLMP, Alaska Regional Guide, all material incorporated by reference, and all materials produced during the environmental analysis of this Project. The planning record is available for review at he the Ketchikan Ranger District/Misty Fiords National Monument.

Mitigation

Mitigation measures are prescribed to avoid, reduce, minimize, or eliminate the adverse effects of actions. These measures were applied in the development of the Project alternatives, including the Selected Alternative, and in the design of the harvest units and road corridors. The Mitigation Measures section of Chapter 2 of the Final EIS discusses the mitigation measures for all alternatives.

Mitigation measures applicable to the Selected Alternative include those contained in the standards and guidelines of the TLMP, Alaska Regional Guide, and applicable Forest Service Manuals and Handbooks. The ROD Appendices 1 and 2 include Unit Design and Road Cards which incorporate site-specific mitigation and are adopted as part of this decision and will be implemented. Measures to avoid or minimize adverse environmental effects of the Project have been incorporated into the Selected Alternative.

Monitoring and Enforcement

A monitoring program is the process by which the Forest Service evaluates whether or not the resource management activities of the Final EIS have been implemented as specified and whether or not the steps identified for mitigating the environmental effects were effective. Three levels of monitoring are recognized: implementation, effectiveness, and validation. Implementation monitoring occurs at the Project level. Effectiveness monitoring is generally conducted on a Forest-wide basis, though some project specific effectiveness monitoring is occasionally conducted to address specific needs (see the Monitoring section of Chapter 2 in the Final EIS). Validation monitoring, is conducted at the Regional or Forest-wide level.

One objective of this strategy is to conduct implementation and effectiveness monitoring of Forest Service BMPs and other TLMP standards and guidelines. The Tongass National Forest, in cooperation with other interested agencies, has developed a monitoring strategy and action plan to achieve this objective. Implementation monitoring in the Sea Level Project Area will follow the guidelines outlined in this action plan. Standards and guidelines to be monitored at specific sites are determined through a review of unit/road cards, fish habitat reports, and other documentation.

Project specific monitoring requirements beyond those required by the TLMP monitoring plan, are specified at the end of Chapter 2 of the Final EIS. For each monitoring item, objectives, desired results, methods of measurement, and evaluations (or threshold and corrective action) are identified, along with identification of the responsible staff. Monitoring activities may reveal results that deviate from planned effects, in which case corrective actions may be prescribed.

Findings Required By Law

National Forest Management Act

The National Forest Management Act requires specific determinations in this Record of Decision including: consistency with the TLMP and the Alaska Regional Guide, a determination of clearcutting as the optimal method of harvesting, and specific authorizations of created openings over 100 acres in size.

Tongass Land Management Plan and Alaska Regional Guide .

This decision is consistent with the Alaska Regional Guide and the revised TLMP. I have reviewed the management direction, standards and guidelines, and the schedule of activities for the VCUs included in the Selected Alternative. I find the Selected Alternative to be consistent with these elements. The activities authorized in this decision are consistent with the standards and guidelines and management prescriptions of the revised TLMP.

Clearcutting as the Optimal Method of Harvesting

The Alaska Regional Guide established silvicultural and management standards for the western hemlock-Sitka spruce forest type. Even-aged management in the form of clearcutting is, according to the Regional Guide, to be used where (1) the management objective is to meet timber production objectives established in the TLMP, (2) where there is a risk of dwarf mistletoe infestation, and (3) where risk of windthrow is determined to be high. Harvest units in the Selected Alternative have a moderate to high risk of windthrow. Most units in the Selected Alternative are prescribed for clearcut harvest with reserves or exclusions set aside for other resource protection measures including riparian buffers, deferrals of steep slopes, and deferrals to maintain structure to meet habitat needs of the American marten. Clearcutting portions of these harvest units meets the objective of maintaining fast-growing, mistletoe-free stands of mixed species and is the optimum method of harvesting, considering the following factors referenced in the Alaska Regional Guide:

- The thin bark and shallow roots of hemlock and spruce make them particularly susceptible to logging injury, which leads to decay. Losses from decay fungi are high, especially in the old-growth forests of Alaska. Conversion from old- to younggrowth by clearcutting has the greatest potential for reducing decay.
- 2. Hemlock dwarf mistletoe, *Arcenthobium tsugense*, a common disease of western hemlock, can best be controlled by clearcutting. Elimination of residual overstory trees infected with dwarf mistletoe prevents infestation of western hemlock in the new stand.
- 3. Exposure to the sun raises soil temperature, which speeds decomposition, thereby improving the productivity of most sites.
- 4. Clearcutting favors regeneration of Sitka spruce by destroying advance hemlock regeneration and by creating more favorable conditions for post-logging reproduction of spruce.
- 5. Risk of blowdown in residual stands is reduced. The chance of blowdown along cutting boundaries is increased but can be reduced through proper design of cutting units.
- Natural seed fall is generally adequate for regeneration and most young stands are dense.
- 7. Logging costs are lower than with other systems.

On June 4, 1992, F. Dale Robertson, former Chief of the Forest Service, issued a letter to Regional Foresters and Station Directors on the subject of Ecosystem Management of the National Forests and Grasslands. As part of this letter, an attachment was included regarding

clearcutting on National Forest System lands and the use of other silvicultural systems. Specific items are listed which describe circumstances where clearcutting is appropriate. In the Sea Level Final EIS, a discussion of alternatives considered is displayed. Where clearcutting is specified as the preferred regeneration harvest, documentation is provided for the reasons clearcutting is appropriate, and reference is made to the appropriate items in the Chief Robertson's letter which apply. Considering these factors, clearcutting, as applied in the Selected Alternative is consistent with the criteria in the letter.

Created Openings Over 100 Acres in Size

There are no created openings that exceed 100 acres.

Tongass Timber Reform Act

Harvest units were designed with no less than 100-foot buffer zones for all Class I streams and Class II streams which flow directly into Class I streams as required in Section 103 of the TTRA. The actual widths of these buffers follow TLMP Riparian Standards and Guidelines that greatly exceed TTRA requirements.

Endangered Species Act

Actions authorized in the Selected Alternative are not anticipated to have a direct, indirect, or cumulative effect on any threatened or endangered species in the Sea Level Project Area. A Biological Assessment is included in Appendix C of the Final EIS. I have determined that this action will not have any adverse impacts on any threatened or endangered species.

Bald Eagle Protection Act

Management activities within 330 feet of an eagle nest site are restricted by a Interagency Agreement between the Forest Service and the U. S. Fish and Wildlife Service to facilitate compliance with the Bald Eagle Protection Act. The Selected Alternative includes no road construction within 330 feet of a known bald eagle nest.

Clean Water Act

The design of harvest units and roads for the Selected Alternative were guided by standards, guidelines, and direction contained in the revised TLMP, Alaska Regional Guide, and applicable Forest Service manuals and handbooks. The ROD Appendices 1 and 2, Unit Design and Road Cards, contain specific details on practices prescribed to prevent or reduce nonpoint sediment sources. Site-specific application and monitoring of BMPs is expected to comply with applicable State Water-Quality Standards Regulations. These regulations provide for variances from anti-degradation requirements and water-quality criteria. The harvest and road-building operators are responsible for compliance, including obtaining any variance required by the State, and will be monitored for compliance by the Forest Service.

A monitoring plan to detect and evaluate possible effects of bark accumulations, oil sheens, and surface runoff will be implemented as a part of permitting processes for log-transfer facilities (BMP 14.4, FSH 2509.22).

Essential Fish Habitat

The potential effects of the Project on essential fish habitat have been evaluated. Estimates of sediment delivery to Southeast Alaska streams from timber harvest indicate that sediment increases are minimal and not distinguishable from natural fluctuations in sediment yield. Some increases in sediment delivery to streams above naturally occurring rates can be expected to result from timber harvest and road construction (Rice et al. 1979; Madej 1982; Reid and Dunn 1984; Furniss et al. 1991; Chamberlin et al. 1991).

Road construction and timber harvest increase the risk of landslides. Of the action alternatives, Alternative 5 proposes building the least amount of road over high MMI=3 sites, and Alternative 2 proposes to build the most over these landtypes. There is a low potential for measurable impacts to water quality and fish habitat from management-induced landslides if any of the action alternatives are implemented. The results of a Tongass-wide landslide survey can help illustrate the potential for landslide impacts in the Sea Level Project Area (Swanston and Marion 1991). This regional landslide survey, which included only large landslides greater than 100 cubic yards of soil displacement, estimates a landslide rate of 1.7 slides over a 20-year period. However, these results also indicate that a relatively small percentage of sediment generated from large landslide events will reach a stream. Swanston

(1989) estimated that the increase in the incidence of landslides over natural occurrences throughout Southeast Alaska was about 3.5 times greater on managed acres.

Swanston's Tongass landslide survey categorized 23 percent of all landslides as debris torrents that occur in deeply cut V-notch gullies. Long-term impacts (greater than 10 years) to channel form and function and to fish habitat would be anticipated for Class I channel segments directly affected by a large landslide (Hogan and Wilford 1989). Based on Swanston's results, there is about a one-in-four chance that any management-related landslide will have an impact on Class I streams and only a very slight chance that impacts on fish habitat could occur. It can be inferred that the majority of these landslides would affect primarily Class III stream channels, as only 3 percent of all natural and management-induced slide events in this survey were shown to directly affect Class I streams.

Approximately one debris slide, 5 acres or larger, occurs for every 2,240 of harvested acres Forest wide (TLMP 1997). If slides smaller than 5 acres are included, then the number of debris slides occurring for every 2,240 harvested acres would increase 150 percent. The average size of a slide on the Ketchikan Area is 5 acres (Loggy 1974).

Care should be taken in extrapolating these results to the Project Area. Road construction and harvesting technology changes, as well as greater sensitivity to water quality and fish habitat concerns (as reflected in BMPs, for example, and much improved soil and water inventory information), have resulted in more effective management practices for timber operations in landslide prone areas. These factors will tend to reduce management-related landslide incidences in the Project Area from the rate observed by Swanston. On the other hand, many of the areas included in Swanston's survey had road systems that were predominantly located on stable locations on lower valley slopes. Roaded segments in the Project Area are proposed on relatively steep slopes, a factor which would tend to increase the potential incidence of road-related landslides. Thus, the frequency of landslide occurrence in the Area is difficult to predict; however, areas with a high potential for landslide occurrence were evaluated in the planning process, and timber harvest was deferred in many of these areas during unit design.

For the Sea Level Project, TLMP standards and guidelines for process group riparian buffers have been applied in all instances on Class III streams. One stream, a Class III alluvial fan, provided an opportunity to modify process group standards and guides (Unit 133). Site-level watershed analysis was conducted and a partial-cut riparian buffer was implemented resulting in the harvest of an additional 26 trees.

Of the ten major watersheds in the Project Area, no alternative proposes harvest in the Fish Creek or Licking Creek watersheds. Alternatives 5 and 7 propose no harvest in the Spit Creek watershed, and Alternative 5 proposes no harvest in the Sea Level Creek watershed.

In evaluating the potential effects on essential fish habitat the following factors were considered:

- the historical success of BMP implementation on the Tongass National Forest;
- the avoidance of timber harvest and road construction in two of the more important watersheds (in all alternatives) and another in the Selected Alternative;
- the exclusion of harvest on slopes greater than 72 percent unless field review by professional soil scientists is completed and indicates harvest of these slopes can be accomplished with no damage to other resources; and
- the Selected Alternative constructs only one new road (Forest Road 8430082) crossing of an anadromous stream (ADF&G Catalog No. 101-43-10250).

Based on the above factors, the risk of measurable impact on essential fish habitat has been minimized in the Project Area. While essential fish habitat may be affected, it is unlikely.

National Historic Preservation Act

Cultural resource surveys of various intensities have been conducted in the Project Area. The State Historical Preservation Officer has been consulted, and the provisions of 36 CFR part 800 are being complied with. Forest Service timber-sale contracts contain enforceable measures for protecting any undiscovered cultural resource that might be encountered during sale operations. I have determined, consistent with the Forest Service direction on cultural resources, that there will be no significant effects on cultural resources. We have completed the Section 106 review for all timber harvest related activities displayed in the Final EIS. This includes roads, units, and LTFs in all alternatives.

Federal Cave Resource Protection Act of 1988

The actions in the Selected Alternative will not have a direct, indirect, or cumulative effect on any significant cave. There are few occurrences of carbonate rock (Berg 1988) and associated cave resources within the Project Area. Field reconnaissance identified caves in two areas of the Project Area. I have deferred one unit with cave entrances and have applied TLMP standards and guidelines on the other unit.

ANILCA Section 810

Subsistence Evaluation and Findings

A subsistence evaluation was conducted for the four alternatives considered in detail for the proposed action in the Sea Level Final EIS in accordance with Alaska National Interest Lands Conservation Act (ANILCA) Section 810. Open houses followed by ANILCA Section 810 hearings were held in Metlakatla and Saxman.

The evaluation of comments from the public, subsistence hearing testimony, and additional analysis indicates that the potential foreseeable effects from the action alternatives in the Sea Level Project Area do not indicate a significant possibility of a significant restriction of subsistence uses for deer, bear, furbearers, marine mammals, waterfowl, salmon, other finfish, shellfish, and other foods such as berries and roots.

Implementation of the Selected Alternative does not present a significant possibility of a significant restriction on subsistence use of Sitka black-tailed deer in the Project Area for the communities of Metlakatla and Saxman. The effect of the Selected Alternative on the subsistence use of deer is minimal, with a reduction in deer-habitat capability within the Project Area of less than 6 percent. See the Subsistence section in Chapter 3 of the Final EIS.

The Final EIS describes the mitigation measures that will be implemented as a part of each alternative. Most of the mitigation measures are designed to maintain fish and wildlife habitat productivity at the highest level possible, while still producing a supply of timber.

In addition, I have determined that reasonable measures to minimize impacts on subsistence have been adopted to the maximum extent practicable while still meeting the purpose and need for this Project.

Consumers, Civil Rights, Minorities, and Women

No negative impacts to the civil rights of individuals or groups, including minorities and women are anticipated to be associated with this Project. Additional information can be found in the TLMP Final EIS Chapter 3 and Appendix H, as well as Chapter 3 of the Sea Level Final EIS.

Executive Orders

Executive Order 11988

Executive Order 11988 directs Federal agencies to take action to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains. The numerous streams in the Project Area make it impossible to avoid all floodplains during timber harvest and road construction. The design of the proposed developments and the application of BMPs combine to minimize adverse impacts on floodplains.

Executive Order 11990

Executive Order 11990 requires Federal agencies to avoid, to the extent possible, the longand short-term adverse impacts associated with the destruction or modification of wetlands. The Selected Alternative avoids most identified wetlands; however, many small wetlands or muskegs occur as inclusions within forested areas. These areas may be altered by timber harvest or road construction. Techniques and practices required by the Forest Service serve to maintain the wetland attributes including values and functions. It is estimated there will be only minimal loss of wetlands with any of the alternatives. Soil moisture regimes and vegetation on some wetlands may be altered in some cases; however, these altered acres would still be classified as wetlands and function as wetlands in the ecosystem.

Executive Order 12898

Executive Order 12898 directs Federal agencies to identify and address the issue of environmental justice, i.e., human health and environmental effects of agency programs that disproportionately impact minority and low income populations. The Executive Order specifically directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife. The issue of environmental justice has been addressed through the Sea Level environmental analysis by identifying low income or Native communities that may be affected by the proposed action; by ensuring that scoping and public involvement activities reach those communities; by evaluating the effects of the proposed action on such communities; and by documenting the analysis. Detailed discussion of potential project effects on communities and subsistence is presented in the Socioeconomic Environment and Subsistence sections of Chapter 3, as well as the Subsistence Resource Report (Sea Level Project planning record).

The communities of Saxman and Metlakatla have significant Native populations and have been evaluated for disproportionate or adverse environmental effects of the proposed action. Community outreach in these Native communities in the form of subsistence hearings in Saxman (July 16, 1998) and Metlakatla (August 1, 1998) and a briefing of the Metlakatla City Council (June 23, 1998) were undertaken to identify specific issues concerning the Sea Level Project. Neither subsistence hearing resulted in concerns regarding the Sea Level Project. The briefing of the Metlakatla City Council indicated an interest in timber that may be available from the Sea Level Project Area for the Metlakatla Indian Community sawmill. At the time of the briefing, the City Council did not see an immediate need for additional timber, given the depressed timber market and the relatively high cost of production.

Comments on the TLMP Supplemental Draft EIS (1990) from the Saxman community expressed concern about the effects of timber harvesting on subsistence salmon streams. They expressed opposition to clearcutting and prefer only limited road construction. People commenting on the Revised Supplemental Draft EIS Preferred Alternative were concerned about their traditional life-style and what the consequences of the timber program would be to their quality of life if the mill was closed and harvest levels reduced. Even though they want protection of the subsistence resources they use, they are concerned about their families (TLMP Final EIS, page 3-640). The Socioeconomic Panel predicted that Saxman would benefit the most from implementing TLMP Alternatives 4 and 5, although with risks of decreased timber employment. Alternatives 3 and 6 received similar ratings although with less certainty and greater potential for neutral rather than positive effects. Although not rated by the panel, the effects of Alternative 11 (the TLMP Selected Alternative) would be similar to those of Alternative 3 (TLMP Final EIS, page 3-642).

Comments on the TLMP Revised Supplemental Draft EIS from the Metlakatla community expressed desires to protect subsistence, that both subsistence and timber harvesting are important, and concerns about small mills and employment (TLMP Final EIS, page 3-604). Implementation of TLMP Alternatives 2, 3, and 6 were predicted by the Socioeconomic Panel to most likely have the least effects either way on Metlakatla. Although not rated by the panel, the effects of TLMP Selected Alternative 11, would be similar to Alternative 3 (TLMP Final EIS, page 3-606).

Based on the Socioeconomic Panel's evaluation of TLMP alternatives effect on the communities of Saxman and Metlakatla, that the TLMP Selected Alternative 11 would be similar in its effects to the rated alternatives, that the Sea Level Project falls within the scope of the TLMP, and on community outreach efforts to ascertain Project Area issues, the Sea Level Project will not have a disproportionate effect on Native or low income communities.

Executive Order 12962

Executive Order 12962 requires Federal agencies to evaluate the effects of proposed activities on aquatic systems and recreational fisheries. The Selected Alternative attempts to minimize the effects upon aquatic systems through Project design, watershed analysis, application of TLMP standards and guidelines, BMPs, and site-specific mitigation measures. Recreational fishing opportunities will remain essentially the same because (1) aquatic habitats are protected implementation of BMPs and riparian buffers, and (2) the isolated road system, far from the nearest town, is unlikely to result in increased opportunities. The exception to this is the possible road connection to Ketchikan for this Shelter Cove portion of the Project Area. This road system represents less than one-third of Project road system; if a connection is made the opportunity for recreational fishing could only be expected to increase.

Coastal Zone Management Act

The Coastal Zone Management Act of 1972, as amended, while specifically excluding Federal lands from the coastal zone, requires that a Federal agency's activities be consistent with the enforceable policies of a State's coastal management program to the maximum extent practicable when that agency's activities affect the coastal zone.

The Alaska Coastal Management Program incorporated the Alaska Forest Resources and Practices Act (Forest Practices Act) as the applied standards and guidelines for timber harvesting and processing. The Forest Service standards and guidelines, BMPs, and mitigation measures described in the Sea Level Final EIS meet or exceed the level of protection provided by the enforceable policies of the State Forest Practices Act.

Based on the analysis in the Final EIS, review of the Alaska Forest Practices Act, and comments from State agencies on the Draft EIS, I have determined that the Selected Alternative is consistent to the maximum extent practicable with the enforceable policies of the Alaska Coastal Management Program.

Federal and State Permits

Federal and State permits necessary to implement the authorized activities are listed at the end of Chapter 1 of the Final EIS.

Implementation Process

Implementation of this decision may occur no sooner than 30 days after the date of publication of the Notice of Availability of the Final EIS in the Federal Register, or 50 days following publication of the legal notice of the decision in the Ketchikan Daily News, published in Ketchikan, Alaska, whichever is later.

This Project will be implemented in accordance with Forest Service Manual (FSM) and Handbook (FSH) direction for Timber Sale Project Implementation in FSM 2431.3 and FSH 2409.24. This direction provides a bridge between project planning and implementation and will ensure execution of the actions, environmental standards, and mitigations approved by this decision, and compliance with the TTRA and other laws.

Implementation of all activities authorized by this ROD will be monitored to ensure that they are carried out as planned and described in the Final EIS and ROD Appendices 1 and 2, Unit Design and Road Cards, unless modified consistent with direction in the FSM 2432.3 and FSH 2409.18.

Unit Design and Road Cards are contained in ROD Appendices 1 and 2. These cards are an integral part of this decision because they document the specific resource concerns,

management objectives, and mitigation measures to govern the layout of the harvest units and construction of roads. These cards will be used during the implementation process to assure that all aspects of the Project are implemented within applicable standards and guidelines and that resource impacts will not be greater than those described in the Final EIS. Similar cards will be used to document any changes to the planned layout, as the actual layout and harvest of the units occurs with project implementation. The implementation record for this Project will display:

- each harvest unit, transportation facility, and other Project components as actually implemented,
- any proposed changes to the design, location, standards, and guidelines, or other mitigation measures for the Project, and
- the decisions on the proposed changes.

Process for Change During Implementation

Proposed changes to the authorized Project actions will be subject to the requirements of the NEPA and other laws concerning such changes.

In determining whether and what kind of further NEPA action is required, the Assistant Forest Supervisor will consider the criteria in 40 CFR 1502.9(c) and FSH 1909.15, sec. 18, for whether to supplement an existing EIS. In particular, whether the proposed change is a substantial change to the intent of the Selected Alternative as planned and already approved, and whether the change is relevant to environmental concerns. Connected or interrelated proposed changes regarding particular areas or specific activities will be considered together in making this determination. Cumulative impacts will be considered.

The intent of field verification is to confirm inventory data and to determine the feasibility and general design and location of a unit or road, not to locate the final boundaries or road locations. Minor changes are expected during implementation to better meet on-site resource management and protection objectives. Minor adjustments to unit boundaries are also likely during final layout for the purpose of improving logging system efficiency. This will usually entail adjusting the boundary to coincide with logical logging setting boundaries. Many of these minor changes will not present sufficient potential impacts to require any specific documentation or action to comply with applicable laws. Some minor changes may still require appropriate analysis and documentation to comply with FSH 1909.15, sec. 18.

Right To Appeal

This decision is subject to administrative appeal. Organizations or members of the general public may appeal this decision according to Title 36 CFR Part 215. The appeal must be filed within 45 days of the date that legal notification of this decision is published in the Ketchikan Daily News, the official newspaper of record. The Notice of Appeal must be filed with:

Regional Forester Forest Service U.S. Department of Agriculture P.O. Box 21628 Juneau, Alaska 99802-1628

It is the responsibility of those who appeal a decision to provide the Regional Forester sufficient narrative evidence and argument to show why the decision by the Assistant Forest Supervisor should be changed or reversed. At a minimum, the written notice of appeal must:

- 1. State that the document is a Notice of Appeal filed pursuant to 36 CFR part 215;
- 2. List the name, address, and, if possible, a telephone number of appellant;
- 3. Identify the decision document by title and subject, date of the decision, and name and title of the Responsible Official;
- 4. Identify the specific change(s) in the decision that the appellant seeks or portion of the decision to which the appellant objects;
- 5. State how the Responsible Official's decision fails to consider comments previously provided, either before or during the comment period specified in 36 CFR 215.6 and, if applicable, how the appellant believes the decision violates law, regulation, or policy.

The first timber sale is planned to be made available in 1999.

Contact Person

For additional information concerning the specific activities authorized with this decision contact the District Ranger, Ketchikan Ranger District/Misty Fiords National Monument.

District Ranger Ketchikan Ranger District Misty Fiords National Monument 3031 Tongass Avenue Ketchikan, Alaska 99901 (907) 225-2148

CAROL J. JORGENSEN

Assistant Forest Supervisor Tongass National Forest Date

Appendix 1

Unit Cards



ROD Unit Cards

Unit cards have been developed for each harvest unit and associated road proposed for the Sea Level Draft Environmental Impact Statement (EIS). These cards are intended to display site-specific information, enabling the public to more fully understand harvest implications. They also serve as a mechanism to pass on information gathered during office reconnaissance of the proposed harvest units to Forest Service field personnel, as well as to provide a vehicle for field reconnaissance observations to be routed back to the Interdisciplinary Team (IDT) for consideration.

The unit cards consist of two parts: (1) a detailed description of the unit, and (2) a schematic map. The map displays the proposed unit and associated roads in the center of the page. Other features shown include: stream-courses, existing roads, previously harvested areas, contour lines, lakes, saltwater, and eagle nests.

The reverse side of the card provides a physical description of the unit, as well as identification of resource concerns which must be considered during implementation of harvest. The physical description includes the location, planned acreage, estimated sawlog plus utility volume, silvicultural system, predominant forest type, aspect, and a breakdown by volume class, elevation range, and soil mass movement index. Resource considerations are identified for soils, timber, engineering, fisheries/watersheds, wildlife, recreation, visuals, lands, cultural resources, and geology.

1 Appendix

List of ROD Units

1	69	168
9	71	203
10	72	209
11 .	80	210
17	81	215
22	82	217
29	88	219
32	89	220
33	90	224
36	113	226
37	118	227
39	119	228
40	120	230
41	121	231
42	124	232
43	125	234
44 .	126	235
55	133	236
56	134	243
57	135	246
66	141	250
67	143	318
68	145	

Unit Data Card - Sea Level ROD												
Unit Number:	1	Planned Acres:	44.9	Silvicultural Systems:	Even CCR	Alternatives:	2, 5, 7					
LUD:	ML	Harvest Acres:	33.1			VCU Number:	7530					
Primary Watershed Code:	000Z	Primary WAA Number:	405	Quad:	KTNB4NW	Photo:	1390-82					
Number of Settings:	10	Logging System:	RS	To	otal Estimated Ha	rvest Volume (MBF):	846					

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	3.5	High:	41.3	Noncommercial:	0.0	Primary Aspect:	E			
Visuals	Seen:	21.0						ГЬМР	High Value Marten Habitat:	41			
Mass Movement Index	High:	28.7	Very High:	0.0					Slopes Greater Than 72%:	0.1			
Wetland Type		Fore	ested Wetland:	9.8		Scri	ub-Shrub Muskeg:	2.6					
Notes: These numbers are acres unless otherwise specified.													
The data is derived from	digital geo	graphic (data and so the c	overages	may not me	et Natio	onal Map Accuracy	Standa	rds.				

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 northeast: Greater of 100-foot or RMA buffer (top of sideslope) required.

Class III HC5 & HC6 southeast: Sideslope Standard & Guideline buffer (top of V-notch) required.

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Partial Retention VQO for 21 foreground acres (due to screening from beach fringe buffer).

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 33 acres. Stand should regenerate naturally. Harvest deferred on 11.8 acres to meet Marten standards (see wildlife). CT 12/15/98

SOILS:

Unit contains high-landslide potential (MMI=3) soils (BMP 13.5). About 15 acres of these soils have been placed in deferral areas (BMP 13.1). Forested wetlands in the north and south parts of unit. Avoid locating roads in these wetlands (BMP 12.5). Use overlay road construction with minimal side-ditching where practicable, to minimize the disruption of subsurface drainage (BMP 14.3). Provide at least partial log suspension when yarding these wetland and high landslide potential areas (BMP 13.9). A small area (0.1 acres) of slopes >72% are inclusions and cannot be avoided in the unit. These areas will not be deferred.

TIMBER:

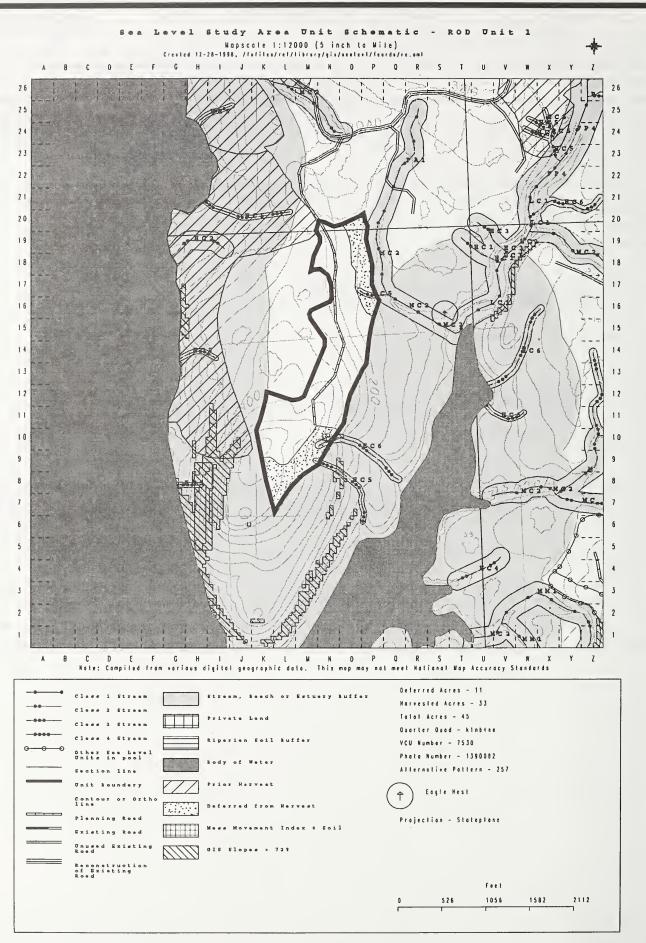
Unit designed for running skyline yarding method. Verify all landings and temporary road locations during layout phase.

WILDLIFE:

Unit is within 0.5 miles of 2 bald eagle nests. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nests March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.

Maintain 1000-foot beach/estuary buffer.

Marten guidelines apply: maintain 10 to 20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, average 3 pieces downed logs/acre (20-30"+),



Unit Number:	9	Planned Acres:	14.3	Silvicultural Systems:	2 age CCR	Alternative:	2,7
LUD:	TP	Harvest Acres:	9.4			VCU Number:	7530
Primary Watershed Code:	E75A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-81
Number of Settings:	2	Logging System:	SH	Total Esti	mated Harve	st Volume (MBF):	241

PHYSICAL DESCRIPTION											
Volume Strata	Low:	14.2	Medium:	0.0	High:	0.0	Noncommercial:	0.0	Primary Aspect:	WNW	
Visuals	Seen:	0.0					T	LMP Hi	gh Value Marten Habitat:	0	
Mass Movement Index	High:	0.0	Very High:	0.0				5	Slopes Greater Than 72%:	0.0	
Wetland Type			None								
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) MC2 southeast to northwest: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class I MMI south: Greater of 120-foot or RMA buffer required.

GEOLOGY:

Area is underlain by erodible volcanic ash and cinder. These deposits are exposed in places along streambanks adjacent to the unit. Avoid or minimize cut-slopes or other ground disturbing activities in this unit.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Two-aged clearcut w/reserves, harvest 9 acres. Stand should regenerate naturally. Harvest deferred on 5 acres to meet Marten standards (see wildlife). CT 12/15/98

SOILS:

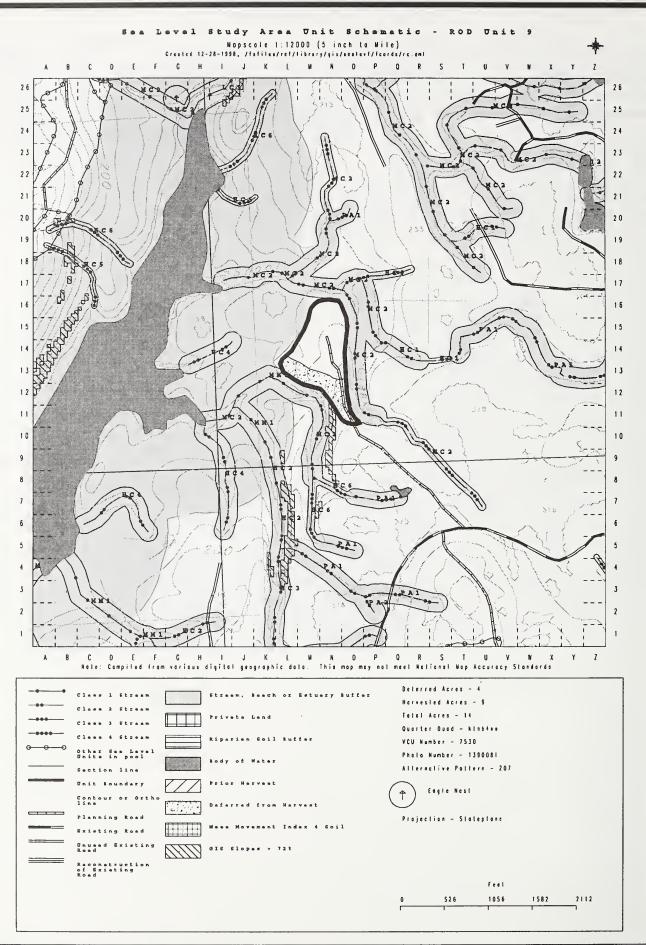
No concerns.

TIMBER:

The logging system design for this unit is shovel logging. Confirm final road and landing locations.

WILDLIFE:

Unit is within 0.5 miles of bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.



Unit Data Card - Sea Level ROD												
Unit Number:	10	Planned Acres:	51.3	Silvicultural Systems:	2 age CCR	Alternatives:	2, 5, 7					
LUD:	TP	Harvest Acres:	30.9			VCU Number:	7530					
Primary Watershed Code:	E77A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-108					
Number of Settings:	11	Logging System:	RS/SH	Total Es	timated Harv	est Volume (MBF):	792					

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	50.5	Medium:	0.8	High:	0.0	Noncommercial:	0.0	Primary Aspect:	SSE			
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	0			
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0			
Wetland Type		Fore	sted Wetland:	28.3		Sho	ort Sedge Muskeg:	0.3	Scrub-Shrub Muskeg:	1.3			
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (nondirect) PA2 south: 85-foot Standard & Guideline buffer required.
Class II (nondirect) PA1 southwest: 85-foot Standard & Guideline buffer required.

Class II (nondirect) HCI center to west: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Two-aged clearcut w/reserves, harvest 31 acres. Stand should regenerate naturally. Harvest deferred on 20 acres to minimize wetland concerns. CT 12/15/98

SOILS:

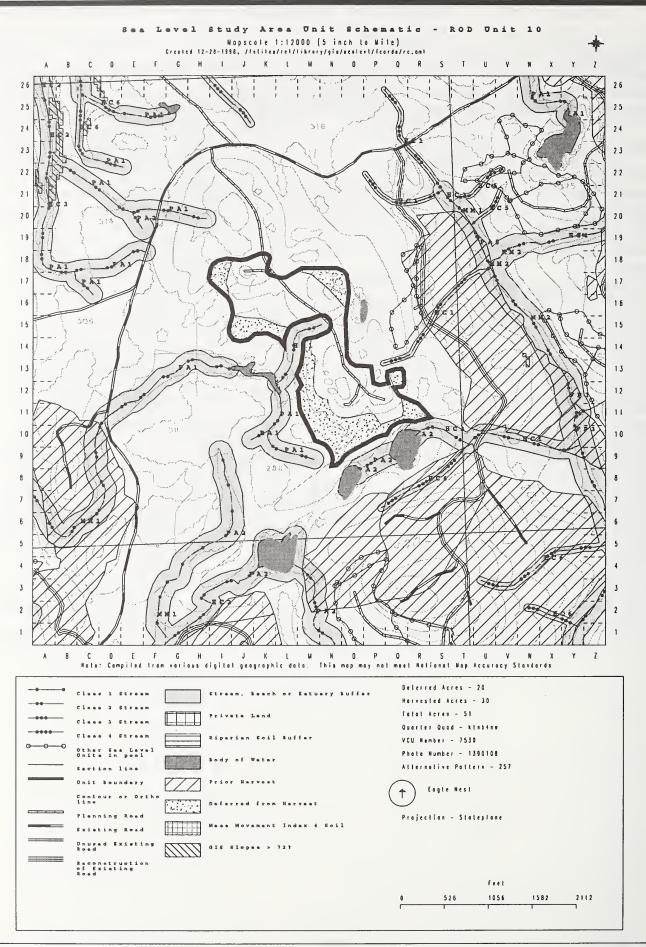
Much of the southern part of this unit consists of forested wetland (BMP 12.5). At least partial log suspension should be provided when yarding this area (BMP 13.9). The planned road location avoids these wetland to extent possible (BMP 14.2). Use overlay road construction on these wetlands with minimal side ditching, where practicable, to minimize the disruption of subsurface drainage (BMPs 12.5 and 14.3). Deferred southern and western boundaries due to presence of Maybeso soils.

TIMBER:

The logging systems designed for this unit are running skyline and shovel logging. Confirm final road and landing locations.

WILDLIFE:

No wildlife mitigation anticipated for this unit. This stand has Rare plant concerns, specifically *Platanthera orbiculta*, these plants are located on the proposed road leading to the unit, some road realignment may be needed; see resource report.



Unit Number:	11	Planned Acres:	4.6	Silvicultural System:	CC	In Alternative:	7
LUD:	TP	Harvest Acres:	4.6			VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-108
Number of Settings:	2	Logging System:	RS	Total Esti	mated Harve	st Volume (MBF):	118

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	3.4	High:	0.0	Noncommercial:	1.2	Primary Aspect:	Е			
Visuals	Seen:	0.0						TLMP Higl	h Value Marten Habitat:	0			
Mass Movement Index	High:	0.0	Very High:	0.0				Slo	opes Greater Than 72%:	0.0			
Wetland Type		Fore	ested Wetland:	0.2									
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC1 south: Sideslope Standard & Guideline buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Even-aged clearcut harvest 4.6 acres. Stand should regenerate naturally. CT 12/15/98

SOIL S.

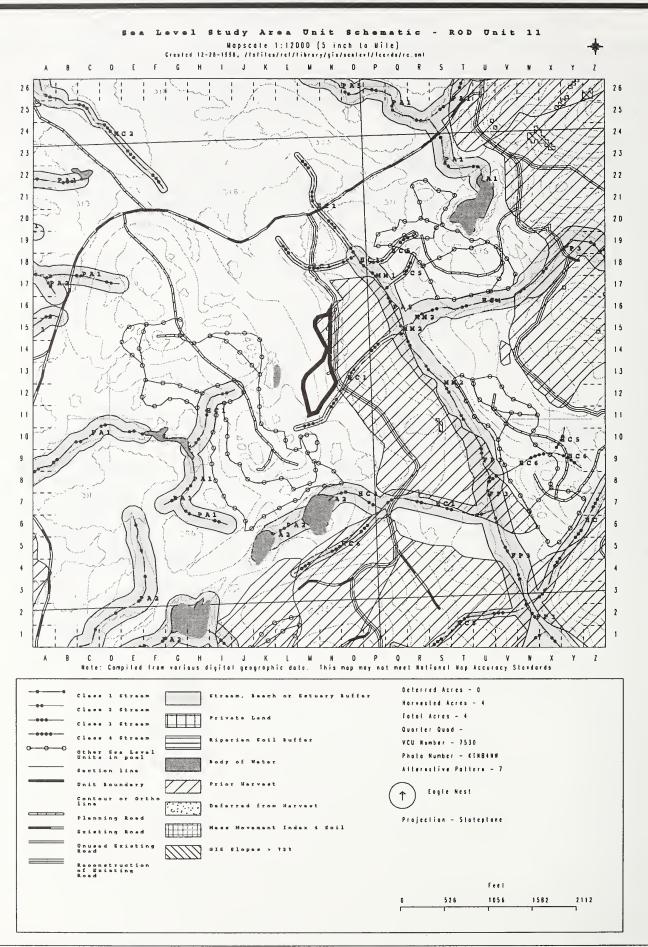
A small area of forested wetlands is located in the west-central part of this unit (BMP 12.5). Utilize a logging system that provides at least partial log suspension when yarding this area (BMP 13.9). The planned road has been located to avoid this wetland area (BMP 14.2).

TIMBER

The logging system design for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE

No wildlife mitigation anticipated for this unit.



	Unit Data Card - Sea Level ROD												
Unit Number:	17	Planned Acres:	10.9	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7						
LUD:	TP	Harvest Acres:	6.5			VCU Number:	7530						
Primary Watershed Code:	EZ2A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-80						
Number of Settings:	3	Logging System:	RS	Total Est	imated Harve	est Volume (MBF):	167						

PHYSICAL DESCRIPTION												
Volume Strata	Low:	10.3	Medium:	0.0	High:	0.0	Noncommercial:	0.0	Primary Aspect:	W		
Visuals	Seen:	0.0					·	TLMP	High Value Marten Habitat:	0		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0		
Wetland Type		Fore	sted Wetland:	2.9		Scr	ub-Shrub Muskeg:	0.5				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (nondirect) MC2 west: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class II (nondirect) PA5 west: 85-foot Standard & Guideline buffer required. Class II (nondirect) PA1 south: 85-foot Standard & Guideline buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SH VICHI THEF.

Moderate productivity. Two-aged clearcut w/reserves, harvest 6.5 acres. Plant 1 acre with Alaska Yellow Cedar, remainder of stand should regenerate naturally. Harvest deferred on 4 acres for organic wetland concerns. CT 12/15/98

SOILS

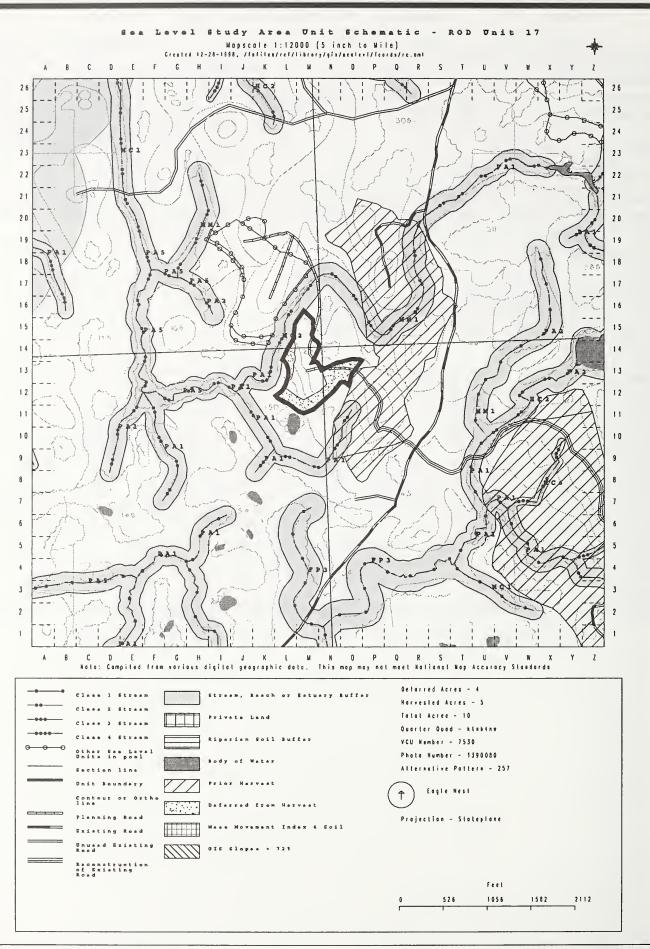
The southern end of this unit is made up of forested wetland (BMP 12.5). The northeast part of the unit contains some scrub-shrub muskeg wetland. At least partial log suspension should be achieved when yarding these areas (BMP 13.9). The planned road is located to avoid this wetland area (BMP 14.2). Deferred small patch of Maybeso soils at the southern end of the unit.

TIMBER

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

No wildlife mitigation anticipated for this unit.



Unit Number:	22	Planned Acres:	48.2	Silvicultural	Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	27.7				VCU Number:	7560
Primary Watershed Code:	E73A E77A E78A	Primary WAA	Number:	405	Quad:	ktnb4nw	Photo:	1390-109
Number of Settings:	8 L	ogging System:	RS/SI	I	To	tal Estimated	Harvest Volume (MBF):	711

			PI	IYSICAL	DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	9.4	High:	38.5	Noncommercial:	0.3	Primary Aspect:	Е
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	38
Mass Movement Index	High:	47.9	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	15.7		Scri	ub-Shrub Muskeg:	2.1		
Notes: These numbers are acres The data is derived from				overages i	nay not mee	t Natio	nal Map Accuracy	Standar	ds.	

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II MM1 southeast: Greater of 120-foot or RMA buffer required.

Class III HC5 southeast: Sideslope Standard & Guideline buffer to form unit boundary.

Class III HC6 northeast: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.
Class II PA1 and PA2 (direct) southcentral and west: 100-foot Standard & Guideline buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, harvest 27.7 acres. Leave approximately 21 acres unharvested to meet Marten standards (see wildlife). CT 12/15/98

SOILS:

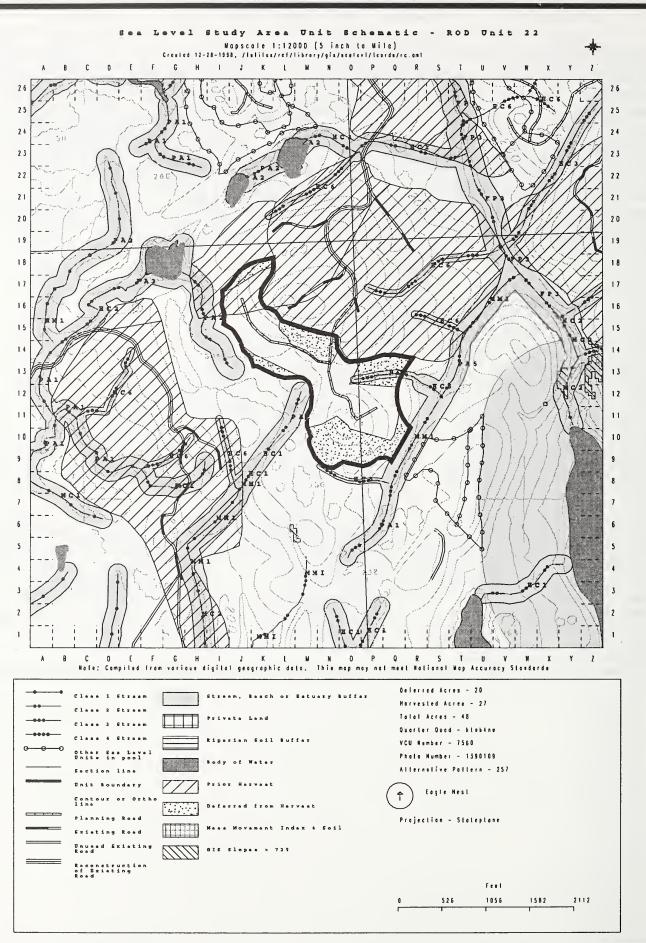
High landslide potential area is located in the eastern part of this unit (BMP 13.5). About 19 acres of these high-landslide potential areas have been place in deferral areas (BMP 13.1). At least partial log suspension should be achieved when yarding this area (BMP 13.9). Forested wetlands and scrub-shrub muskeg make up much of the southwest part of this unit (BMP 12.5). A low-impact yarding system, which provides at least partial log suspension should be used to yard this area (BMP 13.9). Recommend that the planned road be located further north, if possible, to avoid and minimize the effect upon these wetlands (BMP 14.2). Roads on these wetlands should use overlay construction, with minimal side ditching, where practicable, to minimize the disruption of surface flow (BMPs 12.5 and 14.3). Avoid using these wetlands for the disposal of waste material (BMP 14.12).

TIMBER:

The logging systems designed for this unit are running skyline and shovel logging. Confirm final road and landing locations and possible corridor locations.

WILDLIFE:

Marten guídelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	29	Planned Acres:	57.9	Silvicul	tural Systems:	2 aged CCR	In Alternatives:	2,7
LUD:	TP	Harvest Acres:	31.5				VCU Number:	7560
Primary Watershed Code:	E72A E73A	Primary WAA Nun	nber:	405	Quad:	ktnb4nw	Photo:	1390-46
Number of Settings:	14	Logging System(s):	RS/SI	1	Tota	I Estimated Harv	vest Volume (MBF):	808

			Pl	IYSICAI	L DESCRIP	TION				
Volume Strata	Low:	7.1	Medium:	19.2	High:	31.7	Noncommercial:	0.0	Primary Aspect:	SE
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	32
Mass Movement Index	High:	49.5	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	17.0		Sho	rt Sedge Meadow:	0.2		
Notes: These numbers are acres The data is derived from				overages	may not mee	t Natio	nal Map Accuracy	Standar	ds.	

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-0-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC1 north: Greater of 100-foot or RMA buffer (top of sideslope) required.

Class I PA5 east: 100-foot Standard & Guideline.

Class III HC6 southwest: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III PA2 and pond (< 3 acres) west: no concerns.

CFOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, harvest 32 acres. Leave approximately 26 acres unharvested to meet Marten standards (see wildlife). CT 12/15/98

SOILS:

The southeast part of the unit contains an area of high-landslide potential (BMP 13.5). Sixteen acres of these high-landslide potential areas have been deferred from timber harvest (BMP 13.1). To minimize ground disturbance in this setting, a logging system that provides at least partial suspension when yarding should be used (BMP 13.9). The planned road is located to avoid this area (BMP 14.7). The north and west-central parts of this unit consist of forested wetland (BMP 12.5). Use a low-impact logging system when yarding these wetlands to minimize effects upon wetland functions (BMP 13.9). The planned road location has been moved to the south to minimize the effect upon and avoid these wetlands to the extent possible (BMP 14.2). Use overlay road construction on these wetlands with minimal side ditching, to the extent practicable, to minimize the disruption of groundwater flow (BMPs 12.5 and 14.3). Deferred a small patch of Maybeso soils at the east side of the unit.

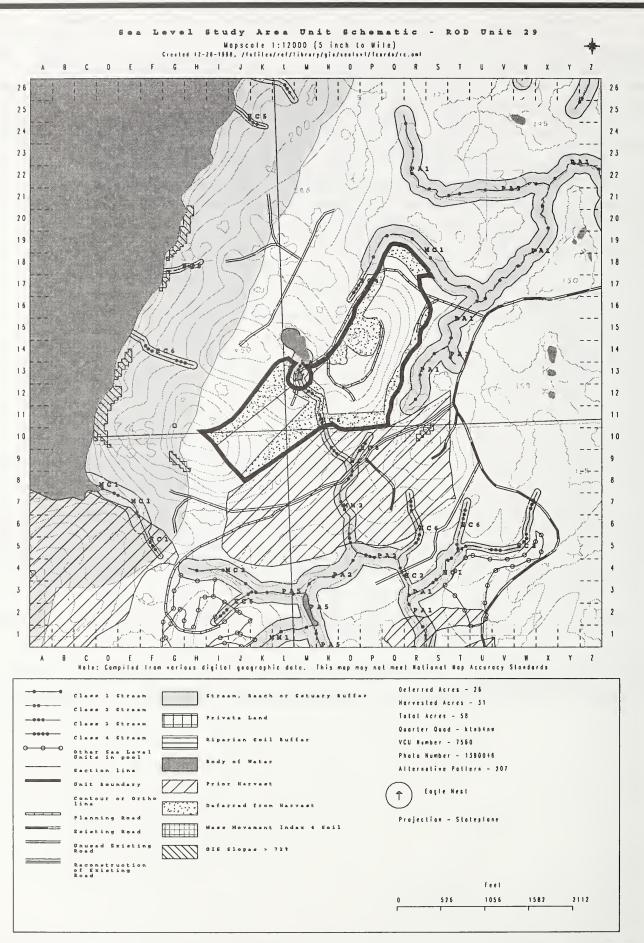
TIMBER:

Shovel logging and running skyline systems are designed for this unit. A profile/logging systems analysis will establish unit boundary on the 8 acre southwestern portion of the running skyline setting where a slope break was identified.

WILDLIFE:

Maintain 1000-foot beach fringe buffer.

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	32	Planned Acres:	10.2	Silvicultural System:	CC	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	10.2			VCU Number:	7530
Primary Watershed Code:	E72A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-47
Number of Settings:	2	Logging System:	SH	Total Esti	mated Harv	est Volume (MBF):	262

			PI	IYSICA	L DESCRIP	ΓΙΟΝ				
Volume Strata	Low:	0.0	Medium:	10.1	High:	0.0	Noncommercial:	0.1	Primary Aspect:	N
Visuals	Seen:	0.0					,	TLMP	High Value Marten Habitat:	0.0
Mass Movement Index	High:	0.0	Very High:	0.0	•				Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	9.6		Scr	ub-Shrub Muskeg:	0.4		
Notes: These numbers are acres	unless othe	rwise sp	ecified.							
The data is derived from	digital geog	graphic d	lata and so the c	overages	may not mee	t Natio	nal Map Accuracy	Standar	ds.	

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report 1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I PA2 northeast: 100-foot Standard & Guideline buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Low productivity. Even-aged clearcut, harvest 10.2 acres. Stand should regenerate naturally. CT 12/15/98

SOILS:

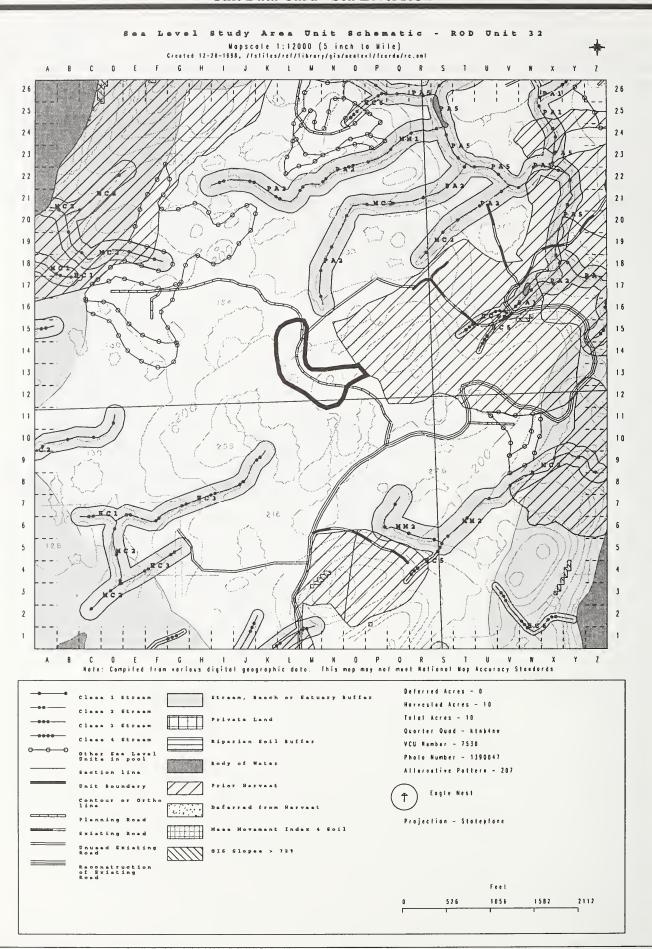
Most of this unit consists of forested or scrub-shrub muskeg wetlands (BMP 12.5). Recommend that a low-impact logging system, which provides at least partial log suspension be used in this unit (BMP 13.9). The only available locations for the planned access road are across these wetlands (BMP 14.2). Overlay road construction with minimal side ditching will be used where practicable, to minimize the disruption of subsurface drainage and alteration of wetness (BMPs 12.5 and 14.3).

TIMBER:

Shovel logging is designed for this unit. Confirm final road and landing locations.

WILDLIFE:

No wildlife mitigation anticipated for this unit.



		Unit Data Ca	rd - S	ea Level ROD			
Unit Number:	33	Planned Acres:	14.7	Silvicultural Systems:	2 aged CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	7.2			VCU Number:	7560
Primary Watershed Code:	E72A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-47
Number of Settings:	7	Logging System:	SH	Total Esti	mated Harve	est Volume (MBF):	185

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	1.6	High:	13.0	Noncommercial:	0.0	Primary Aspect:	NE				
Visuals	Seen:	0.0						TLMP H	igh Value Marten Habitat:	13.1				
Mass Movement Index	High:	0.0	Very High:	0.0				1	Slopes Greater Than 72%:	0.0				
Wetland Type		Fore	sted Wetland:	9.7										
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.														

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 north: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class I MM1 southeast: Greater of 120-foot or RMA buffer required.
Class II (direct) PA2 south: 100-foot Standard & Guideline buffer required.

Class III HC6 east: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reservesl, harvest 7.2 acres. Leave approximately 7.5 acres unharvested to meet Marten standards (see wildlife). CT 12/15/98

SOILS:

Most of this unit consists of forested wetlands (BMP 12.5). Utilize a low-impact yarding system which provides at least partial log suspension (BMP 13.9) on these wetlands. The planned road must be located on these wetlands to avoid crossings on the AHMU Class I stream to the east (BMP 14.2). Use overlay road construction with minimal side ditching on these wetlands to minimize the disruption of groundwater flow (BMPs 12.5 and 14.3). Avoid using these wetlands as disposal sites for waste material and logging slash (BMP 14.19). Field check status of forested wetlands soils during unit layout to determine if Kaikli, Maybeso, Kitkun or Karheen.

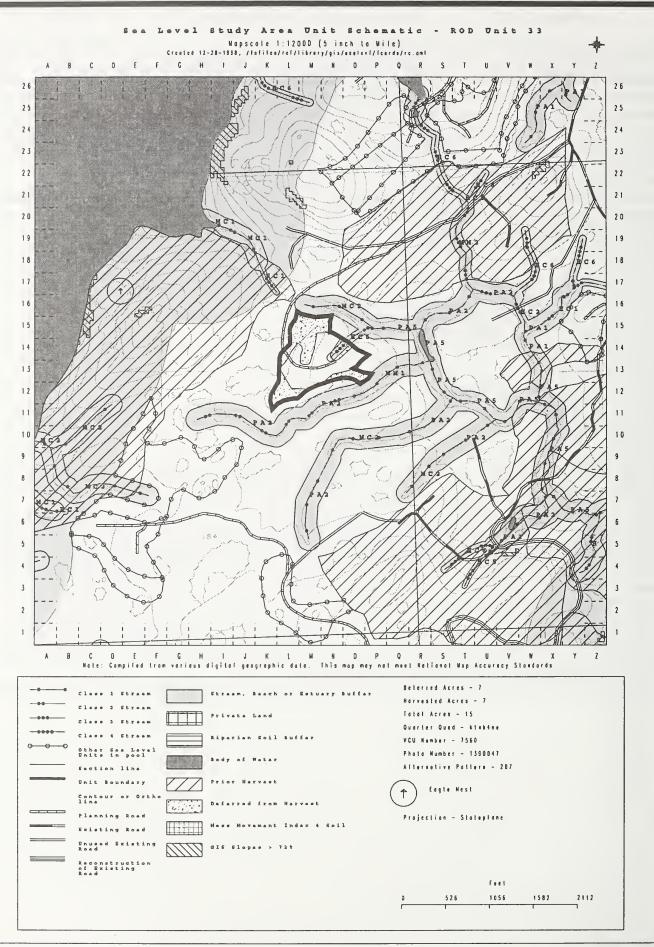
TIMBER:

Shovel logging is designed for this unit. Confirm final road and landing locations.

WILDLIFE:

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.



L			Unit Data C	Card	- Sea Level	ROD			
I	Unit Number:	36	Planned Acres:	36.3	Silvicultural	Systems:	2 age CCR	In Alternatives:	2, 7
ľ	LUD:	TP	Harvest Acres:	9.4				VCU Number:	7530
ľ	Primary Watershed Code:	E72A EY9A	Primary WAA Num	ber:	405	Quad:	ktnb4nw	Photo:	1390-47
11	Number of Settings:	7	Logging System:	SH		Total	Estimated Harv	est Volume (MBF):	241

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	35.9	High:	0.4	Noncommercial:	0.4	Primary Aspect:	NW				
Visuals	Seen:	1.0						TLMP Hi	gh Value Marten Habitat:	0.0				
Mass Movement Index	High:	0.0	Very High:	0.0				S	Slopes Greater Than 72%:	0.0				
Wetland Type		Fore	ested Wetland:	4.6										
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.														

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 center west: Greater of 100-foot or RMA (top of V-notch) buffer required.

ECOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Low productivity. Two-aged clearcut w/reserves, harvest 9 acres. Plant 1 acre with Alaska yellow cedar, remainder of stand should regenerate naturally. Harvest deferred on 27 acres to meet Marten standards (see wildlife). CT 12/15/98

SOILS:

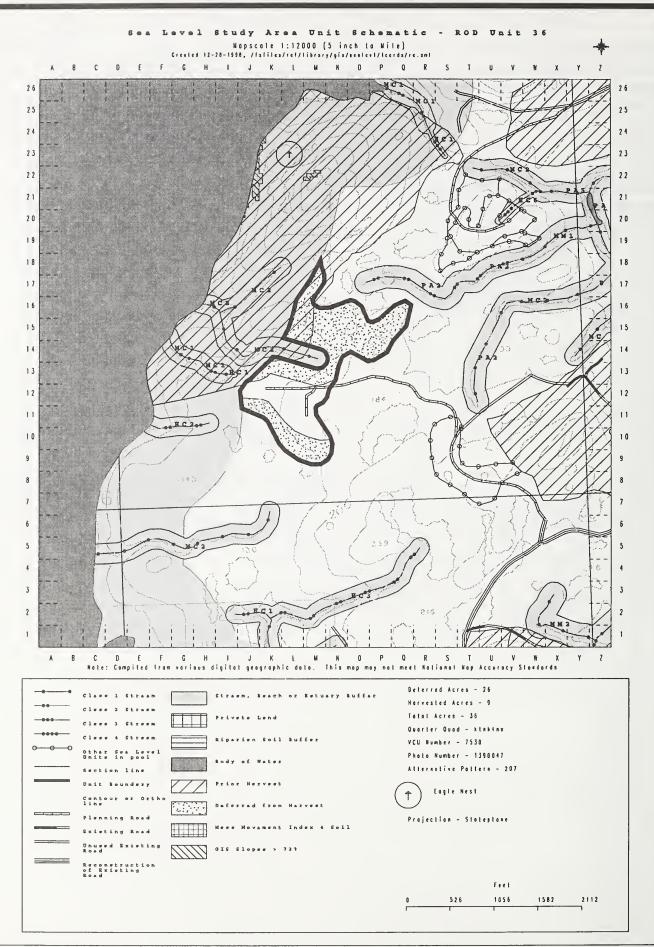
The southern two-thirds of this unit includes small areas of forested wetlands (BMP 12.5). Recommend that at least partial log suspension be obtained when yarding these forest wetland (BMP 13.9). Relocating the proposed access to the north to avoid these wetlands would place it within several hundred feet of an AHMU Class I stream (BMP 14.2). Recommend the planned road location as the preferred. Use overlay road construction with minimal side ditching, where practicable, to minimize the effects upon groundwater flow (BMPs 12.5 and 14.3). Avoid using these wetlands for the disposal of waste material or logging slash (BMP 14.19). Deterred the northern nalf and southern one-third of the unit due to presence of Maybeso soils.

TIMBER:

Shovel logging is designed for this unit. Confirm final road and landing locations.

WILDLIFE

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31. Maintain 1000-foot beach/estuary buffer.



Unit Number:	37	Planned Acres:	5.1	Silvicultural Systems:	2 aged CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	2.9			VCU Number:	7560
Primary Watershed Code:	000Z	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-78
Number of Settings:	3	Logging System:	RS	Tota	al Estimated Har	vest Volume (MBF):	74

			PH	IYSICAL	DESCRIP'	ΓΙΟΝ				
Volume Strata	Low:	0.0	Medium:	0.0	High:	5.0	Noncommercial:	0.1	Primary Aspect:	Е
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	5.1
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	3.0						
Notes: These numbers are acres The data is derived fro				coverage	s may not m	eet Na	tional Map Accurac	cy Stan	dards.	

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 south: Greater of 100-foot or RMA (top of sideslope) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderate productivity. Two-aged clearcut w/reserves, harvest 3 acres. Defer from harvest 2 acres to meet Marten standards. CT 12/15/98

SOILS:

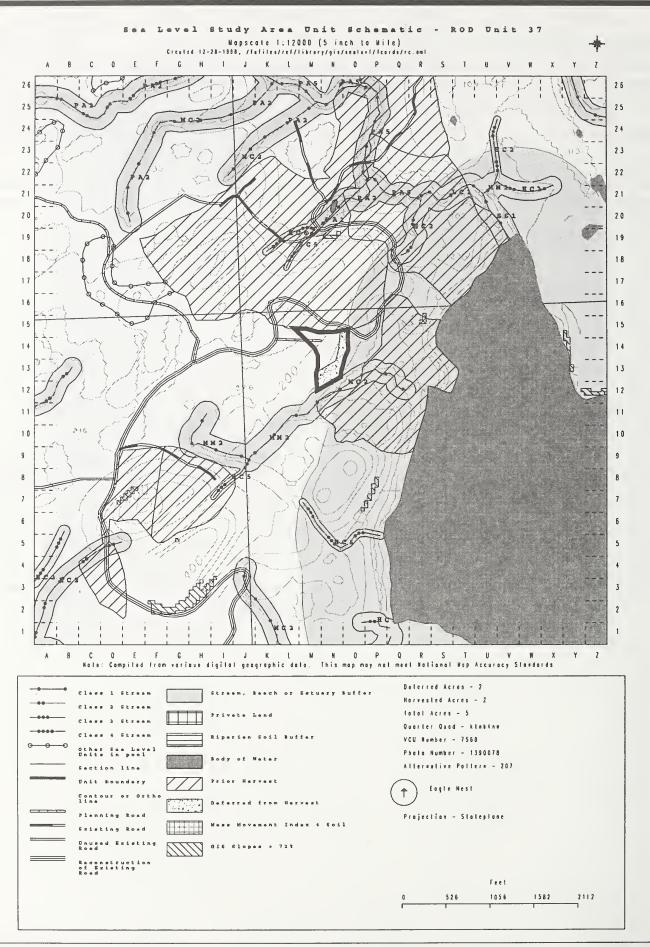
The central part of this unit consists of forested wetands (BMP 12.5). Use a low-impact logging system when yarding these forested wetlands (BMP 13.9) to minimize the disruption of wetland functions. The only feasible road locations to access the unit pass through these wetlands (BMP 14.2). Use overlay road construction with minimal side ditching, where practicable, to minimize the effect upon groundwater flows (BMP 14.3). Avoid placing waste material, logging slash or other fill on these wetlands (BMP 14.19). Deferred eastern edge of unit due to the presence of Maybeso soils.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	39	Planned Acres:	21.4	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	12.1			VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-108
Number of Settings:	5	Logging Systems:	RS/SH	Total Esti	mated Harve	est Volume (MBF):	310

			PH	IYSICAL	DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	3.3	High:	18.1	Noncommercial:	0.0	Primary Aspect:	S
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	18.3
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	9.9		Sp	hagnum Peat Bog:	0.2	Tall Sedge Fen:	0.5
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) HC4 south: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (direct) MM2 south: Greater of 120-foot or RMA buffer required.

Class II (direct) HC3 west: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (direct) MM1 west: Greater of 120-foot or RMA buffer required.

Class II (direct) PA1 west: 100-foot Standard & Guideline buffer required.

Class III HC5 (2 each) west: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class II lake, > 3 acres northeast: Greater of 100-foot or RMA buffer required.

GEOLOGY:

Soils consist of erodible volcanic ash and cinders. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, harvest 12 acres. Leave approximately 9 acres unharvested to meet Marten standards (see wildlife). Plant 2 acres with Alaska yellow cedar. The remainder of the patches should regenerate naturally. CT 12/15/98

SOILS:

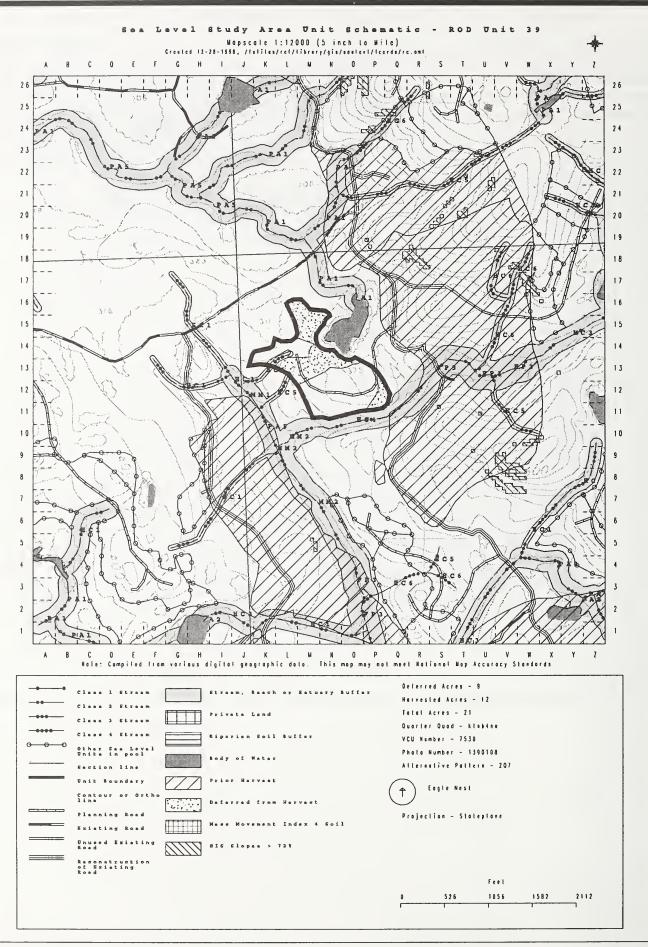
Soils consist of erodible volcanic ash and cinders. Minimize roadcuts and other operations which expose soil material. Most of this unit consists of forested wetlands (BMP 12.5). There are also small areas of Sphagnum peat bog and tall-sedge fen in the northern part of the unit. Recommend that at least partial log suspension be provided when yarding this unit (BMP 13.9). Roads should be located so as to minimize the potential effects upon these wetlands (BMP 14.1). Use overlay road construction with minimal side ditching on these wetlands, where practicable, to minimize effects upon groundwater flows (BMP 12.5 and 14.3). Avoid placing waste material, logging stash or other fill on these wetlands (BMP 14.19).

TIMBER:

The logging systems designed for this unit are shovel and running skyline. Confirm final road and landing locations.

WILDLIFE:

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	40	Planned Acres:	18.5	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	9.6			VCU Number:	7560
Primary Watershed Code:	E77A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-108
Number of Settings:	7	Logging Systems:	RS	Total Esti	mated Harv	est Volume (MBF):	246

			PH	IYSICAI	L DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	0.0	High:	18.0	Noncommercial:	0.5	Primary Aspect:	Е
Visuals	Seen:	0.0					•	LUMP H	ligh Value Marten Habitat:	18.5
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.4
Wetland Type		Fores	ted Wetlands:	3.1						
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (adfluvial) HC1 east: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class III HC6 northeast: Sideslope Standard and Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class III HC5 center to east. Sideslope Standard and Guideline or RMA (top of V-notch) buffer required.

Class II (adfluvial) HC3 south: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (nondirect) HC3: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 10 acres. Leave approximately 9 acres unharvested to meet Marten standards (see wildlife). Stand should regenerate naturally. CT 12/15/98

SOILS:

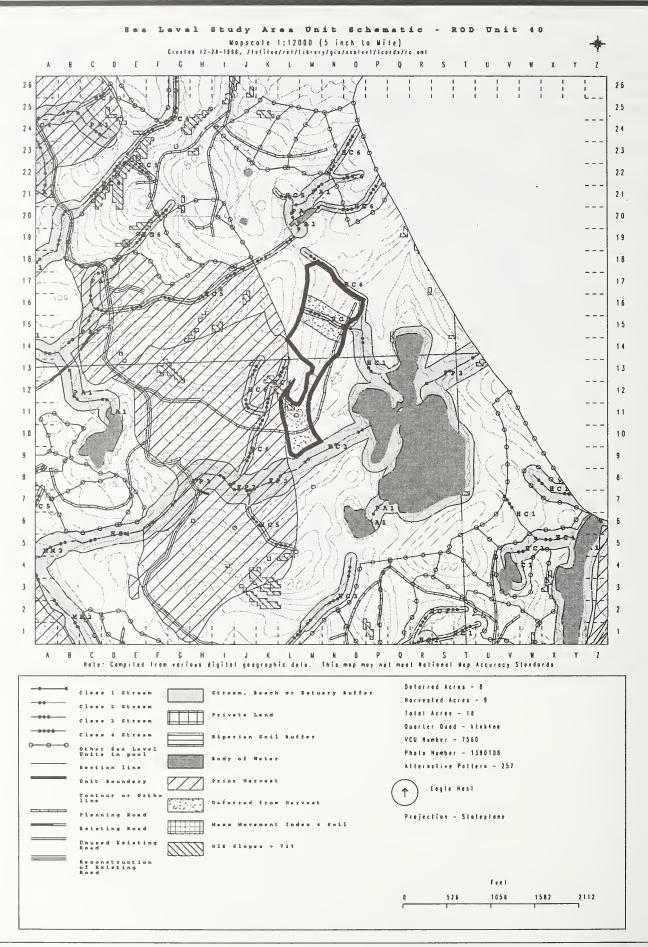
An area of forested wetlands is located along the eastern edge of this unit (BMP 12.5). Recommend that at least partial log suspension be achieved when yarding these forested wetlands (BMP 13.9). It is not feasible to relocate the planned road uphill, to the west to avoid road construction on these wetlands (BMP 14.2). Use overlay road construction with minimal side ditching, where practicable, to minimize the disruption of groundwater flow (BMPs 12.5 and 14..3). Avoid placing waste material, logging slash and other fill on these wetlands (BMP 14.19). A small area (0.4 acres) of slopes >72 percent, are included and cannot be avoided in the unit. These areas will not be deferred.

TIMBER:

The planned logging system design for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	41	Planned Acres:	22.7	Silvicultural Systems:	2 age SWR,	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	13.5		CCR	VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-108
Number of Settings:	5	Logging Systems:	RS/SH	Total	Estimated Har	vest Volume (MBF):	346

			PI	IYSICAL	DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	10.0	High:	12.3	Noncommercial:	0.4	Primary Aspect:	WSW
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	9.0
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	1.4		Shr	ub-Scrub Muskeg:	0.4		
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) MM2 northwest: Greater of 120-foot or RMA buffer required.
Class II (direct) FP3 west: Greater of 130-foot or floodplain RMA buffer required.

Class III HC6 center west: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required. Class III HC3 south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged shelterwood and clearcut w/reserves, harvest 10 acres. Leave approximately 9 acres unharvested to meet Marten standards (see wildlife). Harvest remainder of unit using individual tree selection with a prescription designed to meet silvicultural objectives while meeting Marten standards Stand should regenerate naturally. CT 12/15/98

SOILS:

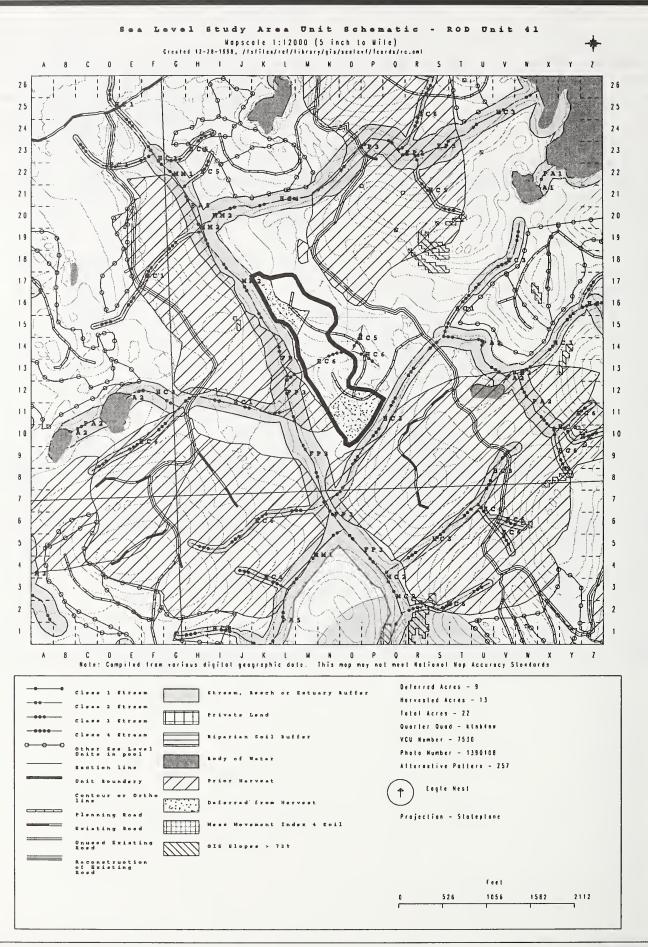
Small areas of forested wetland are found along the east side of this unit (BMP 12.5). The planned access road will pass through these forest wetlands. Use overlay road construction, with minimal side ditching, where practicable, to minimize the effects upon groundwater flow (BMP 14.3). Do not use these wetlands to dispose of waste material, logging slash, or other fill material (BMP 14.19).

TIMBER:

The logging systems designed for this unit are running skyline and shovel. Confirm final road and landing locations. Verify feasibility of split yarding Class III stream within unit and adjust roads, landings, or modify unit boundary if required.

WILDLIFE:

In VCU 7560 (South half of Unit) marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 pieces downed logs per acre (20-30"+). In remainder of unit, marten guidelines apply: maintain 10 to 20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, average 3 pieces downed logs/acre (20-30"+).



L		_	Unit Data Ca	ru - Se	a Level ROD			
II	Unit Number:	42	Planned Acres:	32.0	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
	LUD:	ML	Harvest Acres:	15.9			VCU Number:	7560
I	Primary Watershed Code:	EZ9A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-109
1	Number of Settings:	10	Logging Systems:	RS/SH	Total Es	timated Harv	est Volume (MBF):	408

Unit Data Cand Son Lavel DOD

			PH	IYSICAL	DESCRIP	TION					
Volume Strata	Low:	0.0	Medium:	0.0	High:	30.3	Noncommercial:	1.7	Primary Aspect:	SSE	
Visuals	Seen:	14.4						TLMP H	igh Value Marten Habitat	31.0	
Mass Movement Index	High:	31.9	Very High:	0.0				8	Slopes Greater Than 72%:	0.0	
Wetland Type											
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC5 east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class II (nondirect) MM1 east: Greater of 120-foot or RMA buffer required.

Class III HC6 west: Sideslope Standard and Guideline or RMA (top of V-notch) buffer to form unit boundary

GEOLOGY:

High landslide potential unit (See Soils).

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Partial Retention VQO for 14.4 foreground acres.

SILVICULTURE:

Two-aged clearcut w/reserves, harvest 16 acres and retaining 16 acres unharvested to meet Martin standards. Stand should regenerate naturally. High productivity. CT 12/15/98

SOILS:

Unit has a high potential for landslides (MMI=3). Half of these MMI=3 soils have been place in deferral areas (BMP 13.1). Use a low-impact logging system that achieves at least partial log suspension when yarding to minimize ground disturbance (BMP 13.9) on the nest of the MMI=3 soils. Locate roads to avoid high-landslide potential sites (BMP 14.2). Roads may require full-bench construction on high landslide potential slopes (BMP 14.7).

TIMBER:

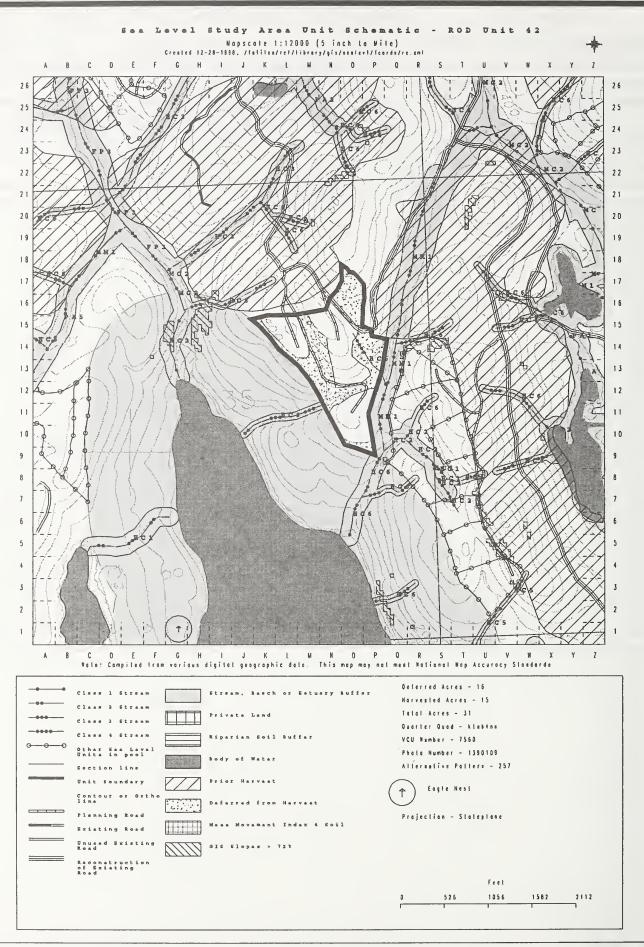
The logging systems designed for this unit are shovel and running skyline. Confirm final road and landing locations.

WILDLIFE

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).

Maintain 1000-foot beach buffer.

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31



Ī	Unit Number:	43	Planned Acres:	47.7	Silvicultural System:	2 age CCR	In Alternatives:	2,7
l	LUD:	ML	Harvest Acres:	19.1			VCU Number:	7560
╟	Primary Watershed Code:	EZ8A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-110
I	Number of Settings:	9	Logging System:	RS	Total Es	timated Harve	est Volume (MBF):	490

			PH	IYSICAI	DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	0.0	High:	46.3	Noncommercial:	1.4	Primary Aspect:	W
Visuals	Seen:	2.3						TLMP	High Value Marten Habitat	47.7
Mass Movement Index	High:	47.7	Very High:	0.0					Slopes Greater Than 72%:	1.2
Wetland Type										
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class 11 (nondirect) MM1 northwest: Greater of 120-foot or RMA buffer required.

Class II (nondirect) HC2 northwest: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (nondirect) HC2 center to north: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (nondirect) HC1 center to north (3 each): Greater of 100-foot or RMA (top of V-notch) buffer required.

Class III HC6 northwest: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III HC5 south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundar.

GEOLOGY:

High landslide potential (See Soils).

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Partial Retention VQO for 2.3 foreground acres.

SILVICILTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 19 acres. Leave approximately 29 acres unharvested to meet Marten standards (see wildlife). Stand should regenerate naturally. CT 12/15/98

SOILS

The eastern part of this unit has a high-landslide potential (MMI=3) (BMP 13.5). Twenty-four and a half acres of the MMI=3 soils have been place in deferral areas (BMPs 13.1 and 13.5). Recommend the use of a logging system that provides at least partial log suspension when downhill yarding these eastern settings (BMP 13.9). The planned road location avoids these high-landslide potential areas (BMP 14.2). This unit contains 1.2 acres of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal (BMP 13.2).

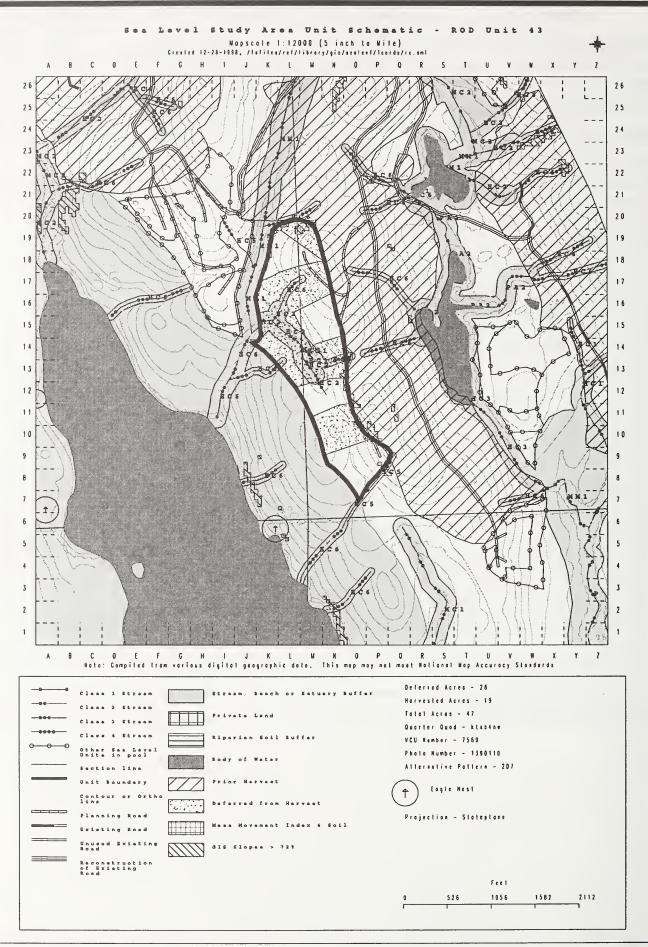
TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations. Verify feasibility of split yarding Class III (HC6) and Class III (HC5) streams within unit and adjust roads, landings, or modify unit boundary if required.

WILDLIFE:

Unit is within 0.5 miles of bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31. Maintain 1000-foot beach buffer.

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	44	Planned Acres:	11.4	Silvicultural Systems:	2 age CCR	In Alternatives:	2,7
LUD:	TP	Harvest Acres:	5.7			VCU Number:	7560
Primary Watershed Code:	FAIA	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-145
Number of Settings:	4	Logging Systems:	RS/SH	Tota	l Estimated Ha	rvest Volume (MBF):	146

			PH	IYSICAL	DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	0.0	High:	11.1	Noncommercial:	0.3	Primary Aspect:	Е
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	11.4
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type	•									
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC6 north: 100-foot no-cut buffer to form unit boundary. Class II (direct) MM1 east: Greater of 120-foot or RMA buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Two-aged clearcut w/reserves, harvest 6 acres. Defer harvest on 5.7 acres to meet Marten standards (see wildlife). Natural regeneration should be adequate. High productivity. CT 12/15/98

SOILS:

No concerns.

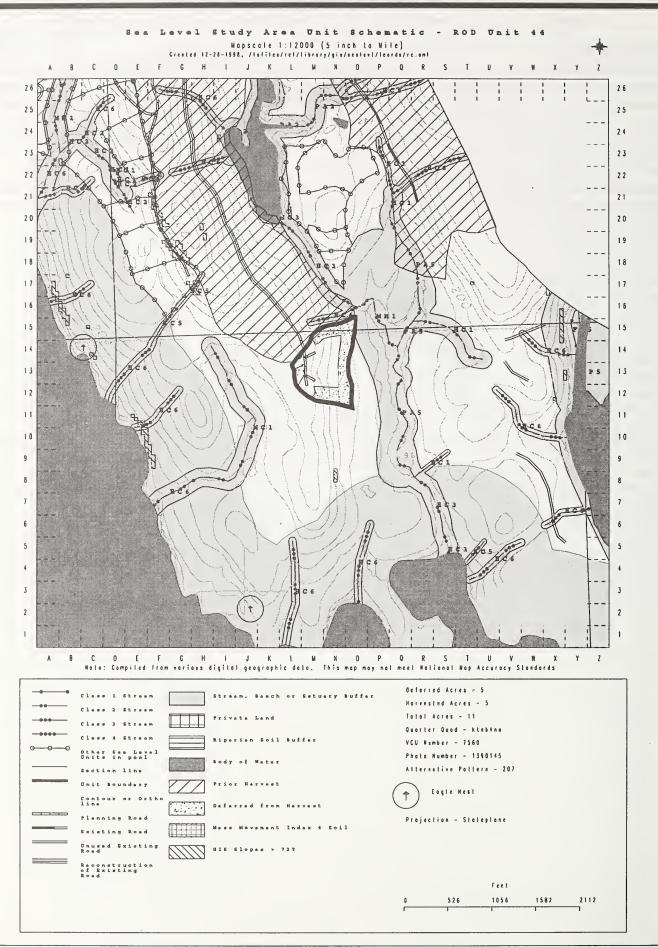
TIMBER:

The logging systems designed for this unit are shovel and running skyline. Confirm final road and landing locations.

WILDLIFE:

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31



Unit Data Card - Sea Level ROD										
Unit Number:	55	Planned Acres:	35.3	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7			
LUD:	TP	Harvest Acres:	26.9			VCU Number:	7530			
Primary Watershed Code:	E75A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-108			
Number of Settings:	11	Logging Systems:	LS, RS, SI	Total Es	stimated Harve	est Volume (MBF):	690			

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	35.3	Noncommercial:	0.0	Primary Aspect:	SSW	
Visuals	Seen:	20.5						TLMP	High Value Marten Habitat:	7.0	
Mass Movement Index	High:	0.2	Very High:	0.0					Slopes Greater Than 72%:	2.5	
Wetland Type		Fore	ested Wetland:	3.4							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENCINEERING/POADS

No concerns.

FISH/WATERSHED:

Class III (nondirect) PA1 west: 100-foot Standard & Guideline buffer required.

Class III HC6 north: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary. Class III HC6 center to southwest: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class II (nondirect) PA1 south: 100-foot Standard & Guideline buffer required.

Class III HC5 south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

GEOLOGY:

No concerns

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 20.5 middleground acres.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, to harvest 27 acres. Leave approximately 8.3 acres unharvested to meet Marten standards (see wildlife). Stands should regenerate naturally. CT 12/15/98

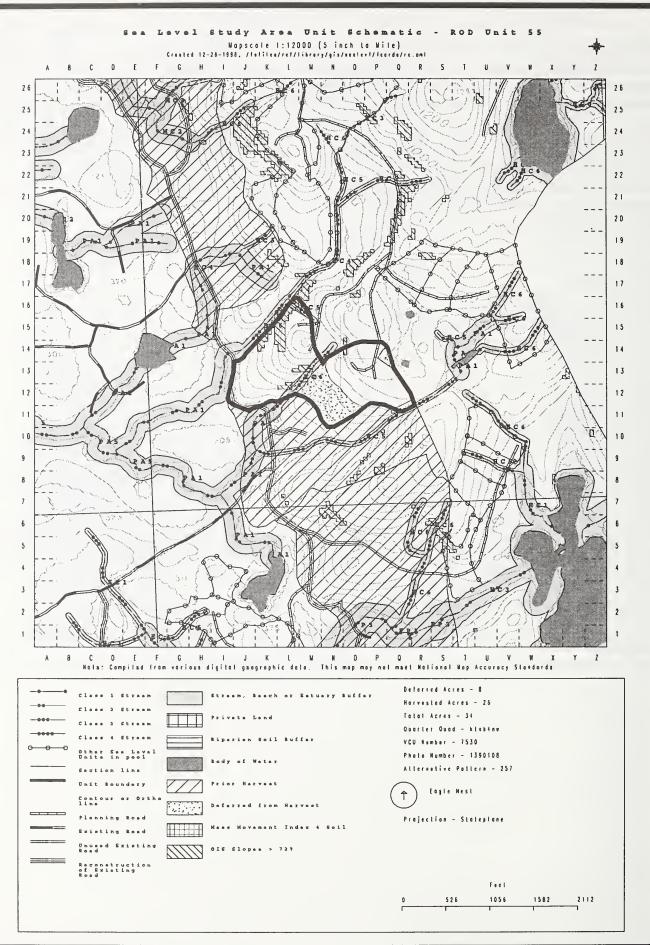
SOILS:

The eastern end of this unit includes a small area of forested wetlands (BMP 12.5). Use a low-impact logging system in this wetland area which provides at least partial log suspension when yarding (BMP 13.9). The planned access road to the southern part of this unit crosses wetlands. It is not preferable to relocate this road to the west, because of steep slopes (BMP 14.2) and the requirement of crossing an AHMU Class III stream (BMP 13.16). This unit contains 2.5 acres of slopes just over 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal (BMP 13.2).

TIMBER:

The logging systems designed for this unit are running skyline, shovel, and live skyline. Confirm final road and landing locations.

WILDLIFE



Unit Number:	56	Planned Acres:	30.6	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	12.3			VCU Number:	7560
Primary Watershed Code:	E75A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-107
Number of Settings:	4	Logging System:	RS	Total E	stimated Harv	est Volume (MBF):	316

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.8	High:	29.8	Noncommercial:	0.0	Primary Aspect:	S		
Visuals	Seen:	2.8						TLMP	High Value Marten Habitat	30.1		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.3		
Wetland Type		Fore	ested Wetland:	9.7		Scr	ub-Shrub Muskeg:	1.5				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC6 (3 each) southeast: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

This unit is located along the Misty Fiords National Monument boundary. This area will require a boundary survey before the unit is laid out.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 2.8 middleground acres.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, harvest 12 acres. Leave approximately 18.6 acres unharvested to meet Marten standards (see wildlife). Plant 2 acres with Alaska Yellow Cedar. The remainder of the stand should regenerate naturally. CT 12/15/98

SOIL S.

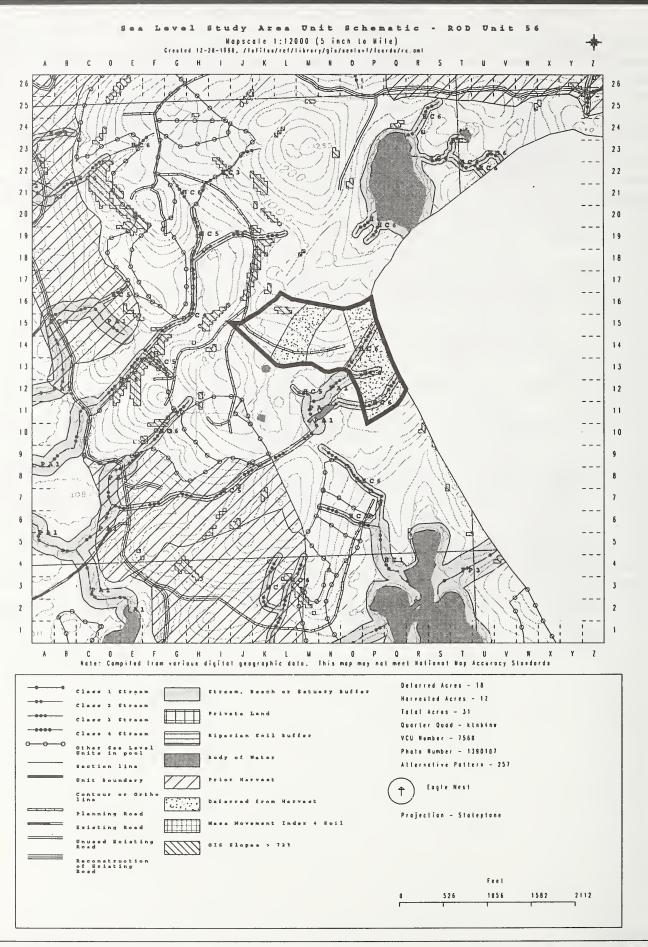
The north and south parts of this unit contain small areas of forested wetland and scrub-shrub muskeg wetland (BMP 12.5). Use a low-impact logging system which provides at least partial log suspension when yarding on these wetlands (BMP 13.9). The planned access road could be moved 100 feet to the north to avoid these wetlands (BMP 14.2). Avoid the use of these wetlands for disposal of waste material or other fill (BMP 14.19). The southeast corner of the unit was deferred due to presence of Maybeso soils. There is a small area (0.3 acres) of slope >72 percent included in the unit which cannot be avoided and will not be deferred.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations and possible corridor locations.

WILDLIFE:

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Number:	57	Planned Acres:	69.0	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	44			VCU Number:	7530
Primary Watershed Code:	E76A E75A	Primary WAA Numb	er:	405 Quad:	ktnb4nw	Photo:	1390-107
Number of Settings:	16	Logging Systems:	RS, LS	S Total Est	imated Harve	est Volume (MBF):	1,129

			Pl	IYSICAL	DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	9.3	High:	59.6	Noncommercial:	0.1	Primary Aspect:	WSW
Visuals	Seen:	44.0					•	ГЬМР	High Value Marten Habitat:	60.5
Mass Movement Index	High:	41.9	Very High:	0.0					Slopes Greater Than 72%:	2.1
Wetland Type		For	ested Wetland:	18.3						
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC3 east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class IV HC6 center east to south: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 to HC4 east. Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary. Class III HC6 center west: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

GROLOGY

High landslide potential. See Soils for mitigation measures.

LANDS.

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 44 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 44 acres. Leave approximately 27 acres unharvested to meet Marten standards (see wildlife). Unit should regenerate naturally. CT 12/15/98

SOILS:

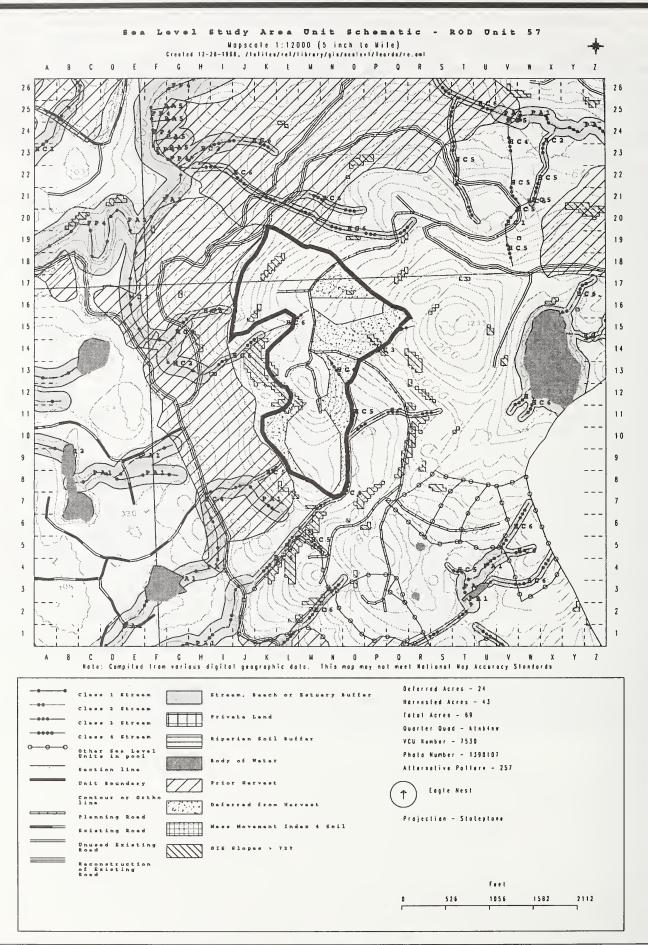
Unit contains high-landslide potential (MMI=3) soils BMP 13.5). Over 8 acres of these MMI=3 soils have been deferred from timber harvest (BMP 13.1). The northeast part of this unit consists of forested wetlands (BMP 12.5). Recommend the use of a low-impact logging system which would provide at least partial log suspension when yarding in these high-landslide potential areas and wetlands (BMP 13.9). Roads have been located to avoid these high-landslide potential areas (BMP 14.2). Due to the presence of steep slopes and water quality streams in other parts of the unit, these wetlands are the preferred location for the planned access road (BMP 14.2). Use overlay road construction and minimize side ditching, where practicable, to minimize the effect upon groundwater flows in these wetlands (BMPs 12.5 and 14.3). Avoid the use of these wetlands for the disposal of waste material or other fill (BMP 14.19). This unit contains 2.1 acres of slopes greater than 72 percent, but less than 75 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal (BMP 13.2). Deferred the mid portion of unit due to presence of Maybeso soils.

TIMBER:

The logging systems designed for this unit are running skyline and live skyline yarding. A profile/logging systems analysis will establish split yarding on Class III HC6 as stated in Fish/Watershed section above. Confirm final road and landing locations.

WILDLIFE:

In VCU 7560 (SE portion of Unit) marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 pieces downed logs per acre (20-30"+). In remainder of unit, marten guidelines apply: maintain 10 to 20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, average 3 pieces downed logs/acre (20-30"+).



Unit Data Card - Sea Level ROD										
Unit Number:	66	Planned Acres:	62.0	Silvicultural Systems: 2 age CCR, In Alternatives: SWR	2, 5, 7					
LUD:	TP	Harvest Acres:	54.2	VCU Number:	7530					
Primary Watershed Code:	E76A	Primary WAA Number:	405	Quad: ktnb4nw Photo:	1390-105					
Number of Settings:	3	Logging System:	HE	Total Estimated Harvest Volume (MBF):	1,391					

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	62.0	Noncommercial:	0.0	Primary Aspect:	S	
Visuals	Seen:	27.0						TLMP	High Value Marten Habitat	62.0	
Mass Movement Index	High:	47.3	Very High:	0.0					Slopes Greater Than 72%:	3.2	
Wetland Type		R	iparian Forest:	3.2							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

No concerns. Report #1995-05-05, 1/30/95 SHPO 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC5, HC2 east: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class I HC2 east: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class IV HC5 west: Fall trees away from streamcourse (BMP 13.16). Helicopter yard trees. Class III HC5 west: Fall trees away from streamcourse (BMP 13.16). Helicopter yard trees.

Class I MM1 southwest: Greater of 120-foot or RMA (top of sideslope) buffer required.

Class IV HC5 northcentral: Fall trees away from streamscourse (BMP 13.16). Helicopter yard trees.

Class I PA1 south: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class III HC5 central: Fall trees away from streamscourse (BMP 13.16). Helicopter yard trees.

Class III HC5, HC2 west boundary: Sideslope Standard & Guideline buffer to form unit boundary.

Class I HC2 west: Greater of 100-foot or RMA (top of V-notch) buffer required.

Painted Creek, Class I FP4 south: Greater of 130-foot or floodplain RMA buffer required.

CEOLOGY.

Unit is located in an area of low-vulnerability karst landscape. No specific karst features have been identified in this unit but there is a potential. Resource damage potential associated with land management activities in the area is not likely to be any greater than that posed by similar activities on noncarbonate bedrock. Parts of this unit are underlain by erodible deposits of volcanic ash and cinder. Minimize the amount of cut slopes and ground disturbance where possible. The upper part of this unit contains high-landslide potential (MMI=3) soils (BMP 13.5). See SOILS for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 27 middleground acres.

SILVICULTURE:

Helicopter harvest 54.2 acres using two-aged shelterwood and w/reserves. Defer harvest on 7.8 acres to meet Marten standards (see wildlife). CT 12/15/98

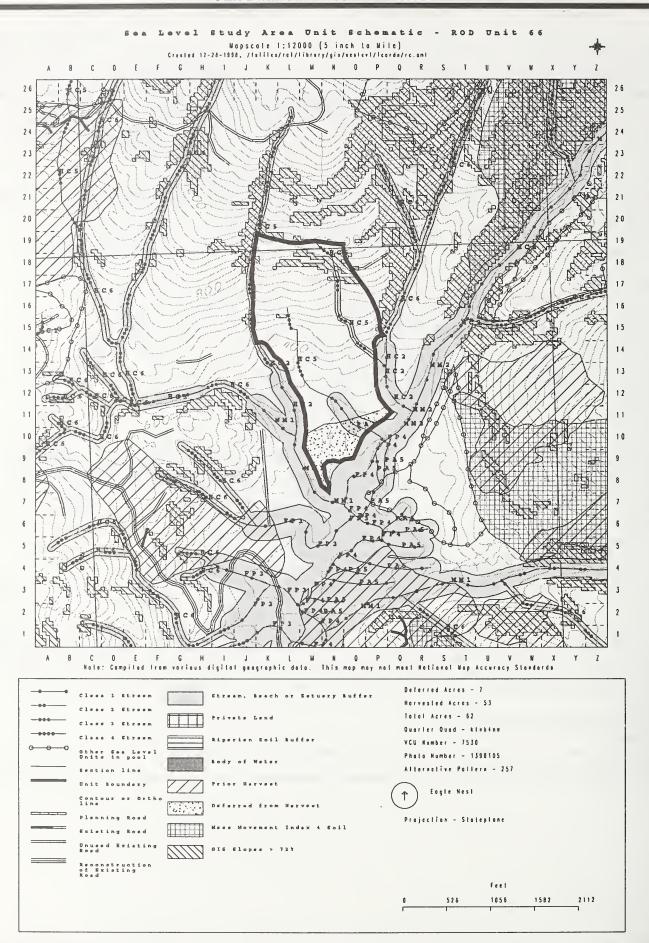
SOILS:

Three and a half acres of this unit consists of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and so the acres are included within the timber harvest unit (BMP 13.2). The upper part of this unit contains high-landslide potential soils (MMI=3) (BMP 13.5). Over 10 acres of the MMI=3 soils were deferred from timber harvest (BMP 13.1). The lower part of this unit includes a small area of riparian forest wetland (BMP 12.5). Helicopter yarding is a low-impact logging system which minimizes ground surface disturbance and provides full log suspension when yarding (BMP 13.9). Road construction on wetlands and high-landslide potential areas was avoided by helicopter logging this unit (BMPs 12.5, 13.5 and 14.1).

TIMBER:

The logging system designed for this unit is helicopter.

WILDLIFE:



Unit Number:	67	Planned Acres:	68	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	45.3			VCU Number:	7530
Primary Watershed Code:	E76A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-105
Number of Settings:	12	Logging Systems:	RS, SH	Total Esti	mated Harves	st Volume (MBF):	1,162

PHYSICAL DESCRIPTION										
Volume Strata	Low:	0.0	Medium:	18.4	High:	44.8	Noncommercial:	0.2	Primary Aspect:	SSE
Visuals	Seen:	30.4						TLMP	High Value Marten Habitat:	45.0
Mass Movement Index	High:	3.1	Very High:	0.0					Slopes Greater Than 72%:	1.3
Wetland Type		For	ested Wetland:	9.9		Sho	rt Sedge Meadow:	0.6	Scrub-Shrub Muskeg:	0.1
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96. RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED.

Class II (nondirect) HC1 west: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class IV HC5 (2 each) northwest and one central: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 into HC1 west: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class II lake south: Greater of 100-foot or RMA buffer required.

Class II (nondirect) PAI south: Greater of 100-foot or RMA buffer required.

Class IV HC1 east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

GEOLOGY:

This unit is located in an area of low-vulnerability karst landscape. No specific karst features have been identified in this unit, but there is a potential to find them. Resource damage potential associated with land management activities in this area is not likely to be any greater than that posed by similar activities on noncarbonate bedrock. Much of this unit is underlain by erodible deposits of volcanic ash and cinder. Several small caves have been eroded out of the volcanic ash deposits in the vicinity of this unit. There is at least one cave is located near the eastern unit boundary. Recommend that no logging or road construction take place within 200 feet of the cave entrance.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 30.4 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut shelterwood w/reserves, harvest 45 acres. Plant 4 acres with Alaska Yellow Cedar the remainder of the stand should regenerate naturally. Harvest deferred on 23 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

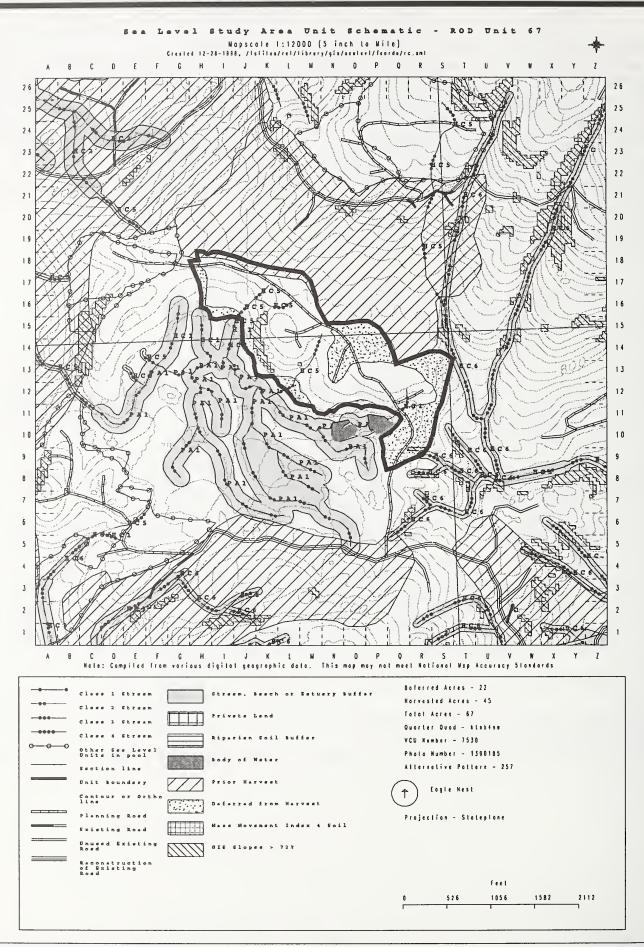
A small area of forested wetland is located in the north-central part of this unit (BMP 12.5). Use a low-impact logging system which minimizes ground disturbance and provides at least partial log suspension when yarding these wetlands (BMP 13.9). Use overlay road construction and minimize side ditching, where practicable, to minimize the effects upon groundwater flow (BMPs 12.5 and 14.3). Avoid the use of these wetland for disposal of waste material or other fill (BMP 14.19). About 3 acres of high-landslide potential soils within the unit boundary have been placed in deferral areas (BMP 13.1). There are 1.3 acres of slopes greater than 72 percent are in this unit. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and they are included within the timber harvest unit (BMP 13.2). A small portion of the north-central part of the unit was deterred due to the presence of Maybeso soils.

TIMBER:

The logging systems designed for this unit include shovel and running skyline. Confirm final road and landing locations.

WILDLIFE

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+). The unit has Sensitive plant concerns specifically *Listera Convallarioides*, 2 populations are in deferral areas consider placing a small deferral area over the southern 3 populations, see resource report.



Unit Number:	68	Planned Acres:	21.6	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	14.3			VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-85
Number of Settings:	4	Logging System:	RS	Total E	stimated Har	vest Volume (MBF):	367

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	13.4	Noncommercial:	6.9	Primary Aspect:	W	
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	14.8	
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	1.6	
Wetland Type		For	ested Wetland:	4.4							
Notes: These numbers are acres unless otherwise specified.											
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

No concerns.

GEOLOGY:

Parts of this unit are underlain by carbonate bedrock. No karst features were found in field reconnaissance.

The potential to find significant cave resources in this unit is considered to be low.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 14 acres. Plant 2 acres with Alaska-yellow cedar the remainder of the stand should regenerate naturally. Harvest deferred on 7.3 acres to meet Marten standards (see wildlife). CT 12/16/98

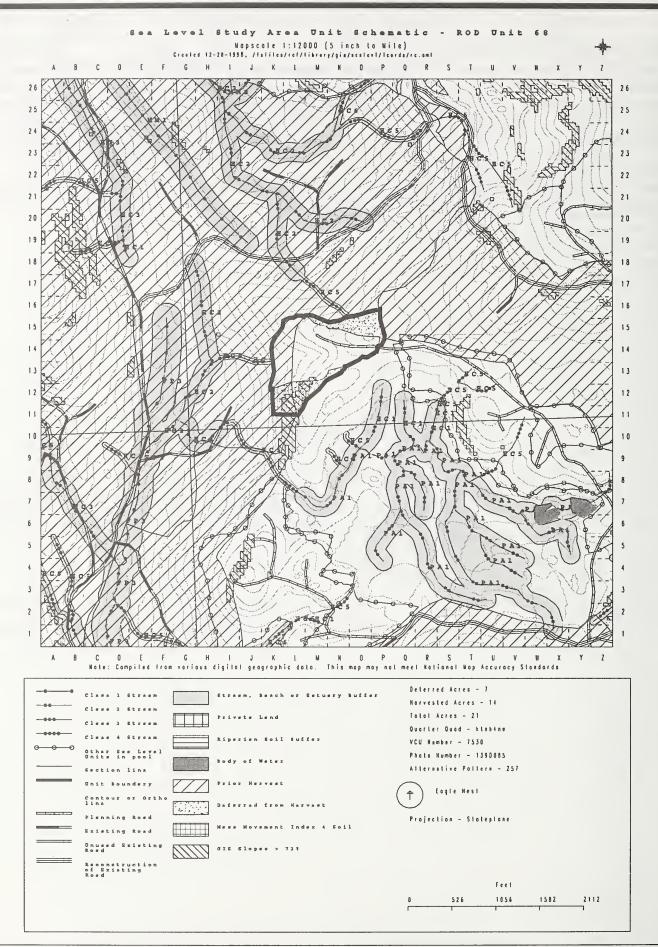
SOILS

Forested wetlands are found along the southeast edge of this unit (BMP 12.5). Recommend the use of a low-impact logging system on these wetlands, which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). The access road has been located to minimize the amount of wetland affected (BMP 14.2). Recommend that overlay road construction and minimal side ditching be used, where practicable, to minimize the effects upon groundwater flow and alteration of wetness (BMPs 12.5 and 14.3). Approximately 1.6 acres of slopes > 72 percent have not been field verified. A qualified soil scientist will review this area prior to layout to determine if it will be deferred from harvest.

TIMBER

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WII DI IEE



Unit Number:	69	Planned Acres:	74.7	Silvicultural Systems:	Even CCR	In Alternatives:	2, 3, 4, 5
LUD:	TP	Harvest Acres:	44.3			VCU Number:	7530
Primary Watershed Code:	E76A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-84
Number of Settings:	13	Logging Systems:	RS	Total Estin	nated Harve	st Volume (MBF):	1,137

			PI	IYSICAI	L DESCRIP	TION				PHYSICAL DESCRIPTION											
Volume Strata	Low:	6.1	Medium:	5.8	High:	52.0	Noncommercial:	1.6	Primary Aspect:												
Visuals	Seen:	9.3						TLMP	High Value Marten Habitat	60.0											
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	1.6											
Wetland Type		Fore	ested Wetland:	14.0		Scr	ub-Shrub Muskeg:	9.7	Short Sedge Meadow:	0.8											
	Notes: These numbers are acres unless otherwise specified.																				
The data is derived from	The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.																				

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC5 east to west: Fall trees away from streamcourse, split yard or full suspension required (BMP 13.16 and CT6.51b).

Class IV HC1 east to north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC6 center to southwest: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III HC3 southwest to south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

CEOLOGY.

Much of the northern part of this unit is underlain by carbonate bedrock. The southern part of the unit is underlain by erodible deposits of volcanic ash and cinder. The potential to find significant karst resources in this unit is considered to be low. A small cave, eroded into the volcanic ash deposits, is located near the southeast unit boundary. Recommend that a 100-foot buffer be placed around the entrance of this cave.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 9.3 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 44.3 acres. Stand should regenerate naturally. Harvest deferred on 30.4 acres to meet Marten standards (see wildlife). CT 12/16/98

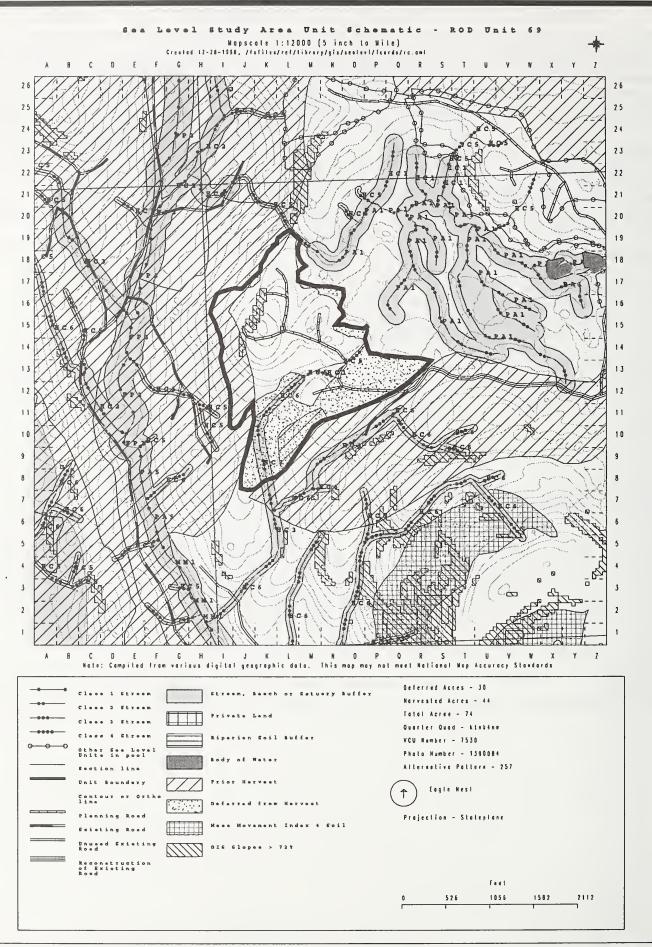
SOILS:

The central part of this unit contains forested wetlands. The southeast unit boundary includes an area of scrub-shrub muskeg wetland. The unit is bordered on the east by short sedge meadow (BMP 12.5). Roads have been located within this unit to avoid these wetlands to the maximum extent practical (BMP 14.2). Road construction on these wetlands should use overlay construction with minimal side ditching, where practical, to minimize the effects upon groundwater flow (BMP 14.3). Avoid the use of these wetlands as disposal sites for overburden or other fill (BMP 14.19). There are 1.6 acres of slopes greater than 72 percent in this unit. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and they are included within the timber harvest unit (BMP 13.2). A small section along the south unit boundary has been deferred due to the presence of Maybeso soils.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	71	Planned Acres:	49.5	Silvicultural Systems: Even In Alternatives: CCR	2, 5, 7
LUD:	TP	Harvest Acres:	31.6	VCU Number:	7530
Primary Watershed Code:	E76A	Primary WAA Number:	405	Quad: ktnb4nw Photo: 1	1390-104
Number of Settings:	10	Logging Systems:	RS	Total Estimated Harvest Volume (MBF):	811

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	18.4	High:	24.1	Noncommercial:	0.0	Primary Aspect:	SSW			
Visuals	Seen:	31.6						TLMP	High Value Marten Habitat:	22.5			
Mass Movement Index	High:	23.5	Very High:	0.0					Slopes Greater Than 72%:	2.1			
Wetland Type		For	ested Wetland:	7.1									
Notes: These numbers are acres unless otherwise specified.													
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO 1/2/96 RAI

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC5 center: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c). Class IV HC5 center: Fall trees away from streamcourse, split yard or full suspension required (BMP 13.16 and CT6.51b).

Class III HC6 east: Sidestope Standard & Guideline or RMA (top of V-noteh) buffer to form unit boundary.

GEOLOGY:

Low-karst vulnerability area. No specific karst features have been located within this harvest unit, but the potential to find them is high. Resource damage potential associated with land management activities in this area is greater than that posed by similar activities on low or moderate-vulnerability karst lands. If significant karst features are found within this unit, appropriate mitigation measures will be applied.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 31.6 middleground acres.

SILVICULTURE

Highly productive. Even-aged clearcut w/reserves, harvest 32 acres. Stand should regenerate naturally. Harvest deferred on 18 acres to meet Marten standards (see wildlife). CT 12/16/98

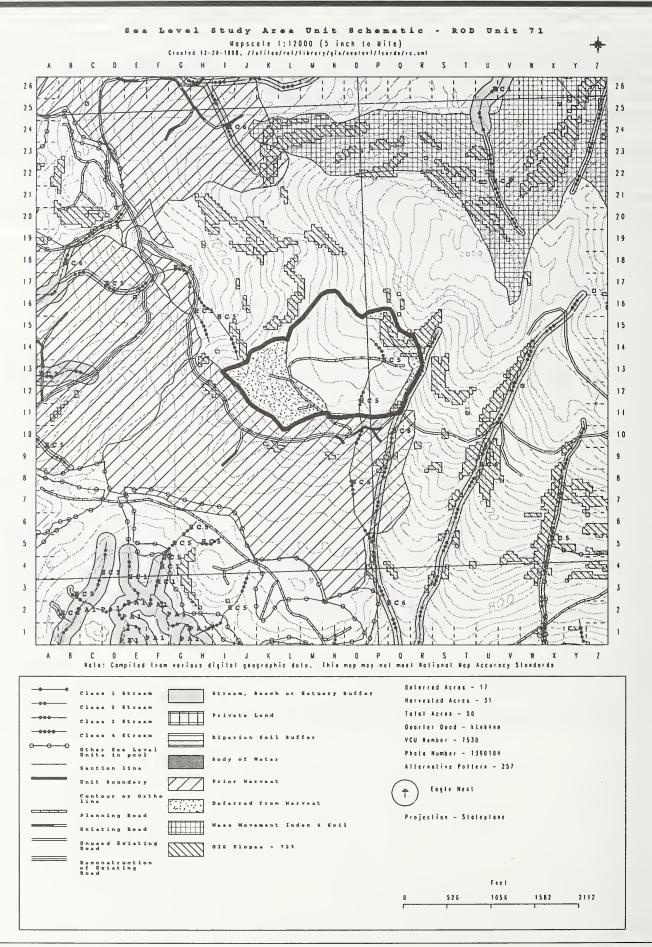
SOILS:

The east part of this unit contains high-landslide potential (MMI=3) soils (BMP 13.5). A small part of the MMI=3 soils, 3.7 acres, have been placed in deferral areas (BMP 13.1). Roading on these steep, potentially unstable slopes may require full-bench design (BMP 14.7). Avoid fill slopes on high-landslide potential areas (BMP 14.7). Limit blasting for road construction when the soil in saturated (BMP 14.6). The southwest part of the unit includes an area of forested wetland (BMP 12.5). Recommend the use of a low-impact logging system which minimizes ground surface disturbance and provides at least partial log suspension when yarding (BMP 13.9) on these high-landslide potential and wetland areas. Use overlay road construction and minimize side ditching, where practicable, to minimize the effects upon groundwater and alteration of wetness (BMPs 12.5 and 14.3). Avoid the use of these wetlands for the disposal of overburden or other fill material (BMP 14.19). There are 2.1 acres of this unit with slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and they are included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	72	Planned Acres:	37.6	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	24.5			VCU Number:	7530
Primary Watershed Code:	D96A	Primary WAA Number:	405	Quad:	ktnb4nw	Photo:	1390-85
Number of Settings:	10	Logging System:	RS/SH				629

			PH	YSICA	L DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	8.5	High:	28.5	Noncommercial:	0.1	Primary Aspect:	WSW
Visuals	Seen:	0.0						ГLМР	High Value Marten Habitat:	28.6
Mass Movement Index	High:	10.7	Very High:	0.0					Slopes Greater Than 72%:	5.4
Wetland Type			None							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerms. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) MC2 northwest: Greater of 100-foot or RMA (top of sideslope) required.

Class II (direct) MM2 northwest: Greater of 120-foot or RMA buffer required.

Class III HC5, HC6 south: Sideslope Standard & Guideline buffer (top of V-notch), split yard or full suspension required.

GEOLOGY:

High landslide potential. See Soils for mitigation measures. Low-vulnerability karst area. Resource damage potential associated with land management activities in the area is not likely to be any greater than those posed by similar activities on noncarbonate bedrock. Parts of this unit are underlain by carbonate bedrock, limestone and marble. No karst features were found during unit recon. If significant karst features are found in this unit, appropriate mitigation measures described in Forest Plan Standards and Guidelines will be applied.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 25 acres. Stand should regenerate naturally. Harvest deferred on 13 acres to meet Marten standards (see wildlife). CT 12/16/98

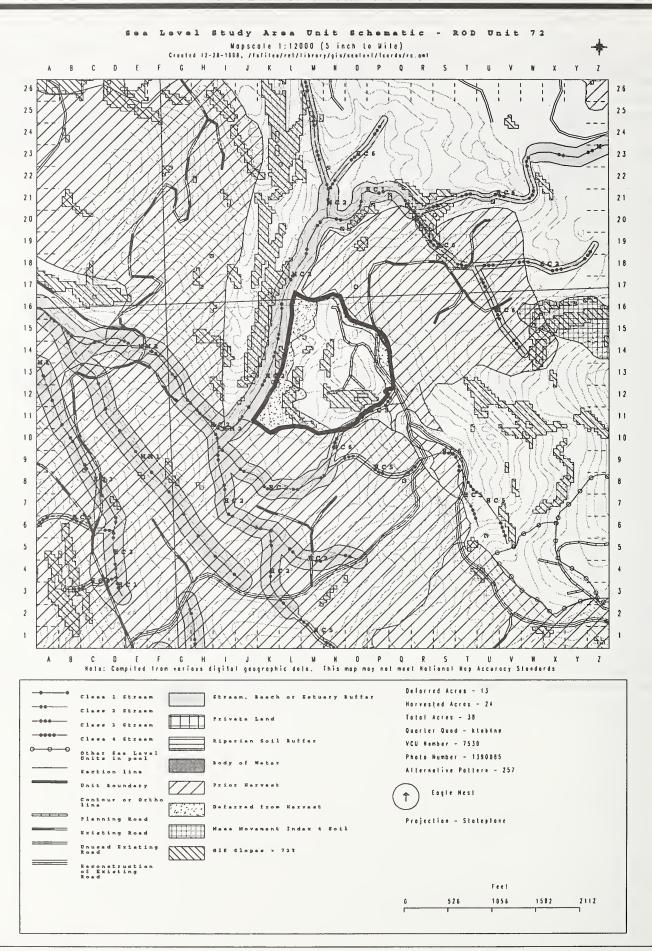
SOILS:

This unit include high landslide (MMI=3) potential areas (BMP 13.5). Three acres of these MMI=3 areas have been deferred from timber harvest (BMP 13.1). Use a low-impact-logging system which minimizes ground disturbance and provides at least partial log suspension when yarding on these high landslide potential sites (BMP 13.9). Roads have been located in this unit to avoid these high landslide potential areas (BMP 14.2). This unit contains 5.4 acres of land greater than 72 percent slope. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and they are included within the timber harvest unit (BMP 13.2).

TIMBER

The logging systems designed for this unit are running skyline and shovel. Confirm final road and landing locations.

WILDLIEF.



L		Unit Data Card - Sea Level ROD											
	Unit Number:	80	Planned Acres:	89.5	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7					
ľ	LUD:	ML	Harvest Acres:	61.4			VCU Number:	7460					
I	Primary Watershed Code:	D87A	Primary WAA Number:	405	Quad:	ktnc4sw	Photo:	1390-39					
I	Number of Settings:	15	Logging System:	RS	Total Esti	mated Harve	est Volume (MBF):	1,576					

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	5.8	Medium:	38.7	High:	37.1	Noncommercial:	0.0	Primary Aspect:	WSW		
Visuals	Seen:	50.4						TLMP	High Value Marten Habitat:	28.0		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.9		
Wetland Type		Short S	edge Meadow:	1.6			Forested Wetland:	10.8				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC3 north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class II HC3 north and east (2 each): Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II FP3 east: Greater of 140-foot or floodplain RMA buffer required.

Class II PA1, FP3 southeast: Greater of 130-foot or floodplain RMA buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

Most of the bare ground and exposed slash will be screened from view by beach-fringe old growth. A noticeable opening in the natural canopy would be apparent. As proposed, this unit would meet the Partial Retention VQO for 50.4 foreground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 61 acres. Plant 3 acres with Alaska Yellow Cedar the remainder of the stand should regenerate naturally. Harvest deferred on 28 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

About 10 acres of forested wetland are located in the central part of this unit (BMP 12.5). A small area of forest wetland is located in the north end of the unit. Use a low-impact logging system which minimizes ground disturbance and provides at least partial log suspension on these wetlands (BMP 13.9). Access roads have been located to avoid these wetlands, to the extent possible (BMP 14.2). Use overlay road construction and minimize side ditching, where practicable, on these wetlands to minimize the effects upon groundwater flow (BMPs 12.5 and 14.3). A small area (0.9 acres) of slopes >72 percent are included and cannot be avoided in the unit. This area will not be deferred.

TIMBER:

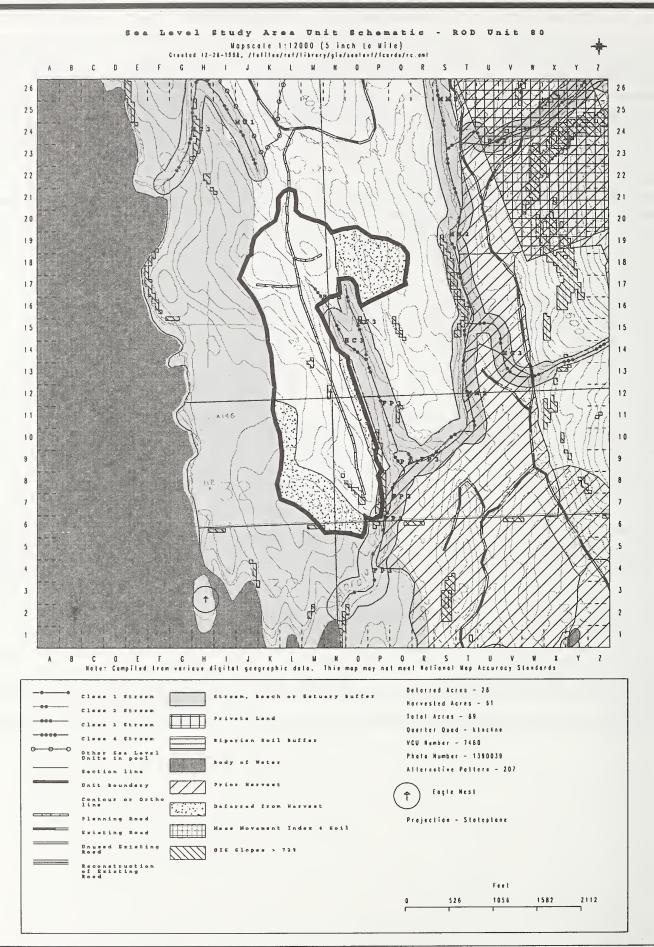
The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.

Maintain 1000-foot beach/estuary buffer.

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+). This unit has Sensitive Plant concerns, specifically *Platenthera Chorisiana*. Defer small area in northwest corner to protect population, see resource report.



Unit Number:	81	Planned Acres:	28.8	Silvicultural Systems:	2 age	In Alternatives:	2, 7
					CCR		
LUD:	ML	Harvest Acres:	12.1			VCU Number:	7460
Primary Watershed Code:	115A	Primary WAA Number:	405	Quad:	ktnc4sw	Photo:	1390-39
Number of Settings:	5	Logging Systems:	RS	Total Estim	ated Harves	st Volume (MBF):	310

			PI	IYSICA	L DESCRIPT	PHYSICAL DESCRIPTION												
Volume Strata	Low:	1.8	Medium:	25.2	High:	0.0	Noncommercial:	0.0	Primary Aspect:	W								
Visuals	Seen:	0.0						TLMP H	igh Value Marten Habitat:	0.0								
Mass Movement Index	High:	0.4	Very High:	0.0					Slopes Greater Than 72%:	0.0								
Wetland Type		Fore	ested Wetland:	14.7														
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.																		

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class 11 FP3, HC1 north: Greater of 130-foot or floodplain RMA buffer required.

Class II MMI northwest: Greater of 120-foot or RMA buffer required.

Class IV HC1 center to north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 center to north. Sideslope Standards and Guidelines or RMA (top of V-notch) buffer required.

Class II MC1 west: Greater of 100-foot or RMA (top of sideslope) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 12 acres. Stand should regenerate naturally. Harvest deferred on 17 acres for organic soils concerns. CT 12/16/98

SOILS:

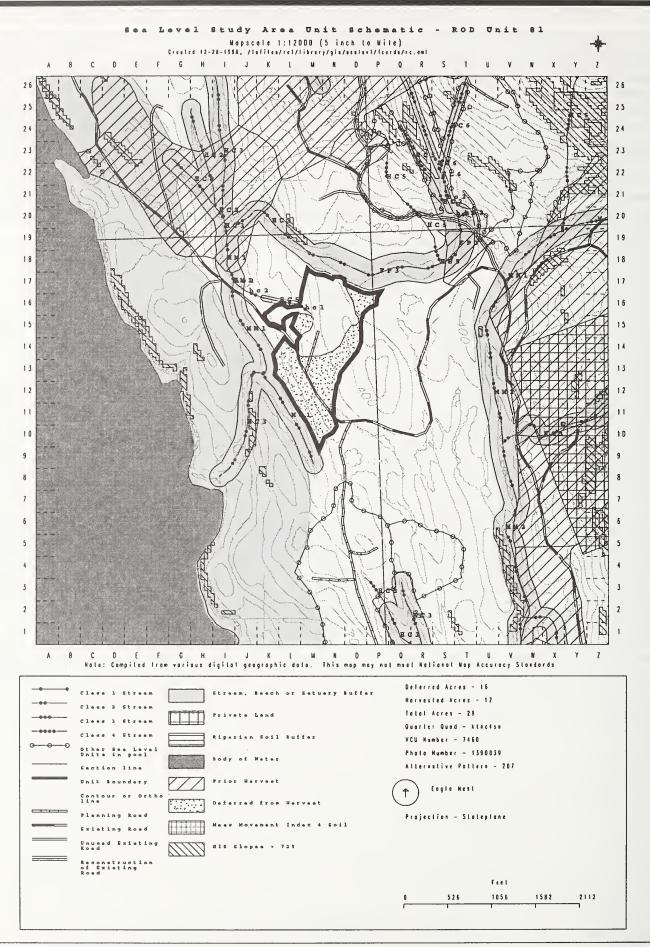
The southern part of this unit consists of 14.7 acres of forested wetland (BMP 12.5). Most of these wetlands have been placed in deferal areas. Recommend that a low-impact logging system in this area, shovel logging, be used to minimize the effects upon wetland functions (BMP 13.9). Roads have been located to minimize the amount of wetlands affected (BMPs 14.1 and 14.2). For those roads constucted on wetlands, use overlay road constuction and minimize side-ditching, where practicable, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5 and 14.3). The western half of the unit was deferred due to presence of Maybeso soils.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

No wildlife mitigation anticipated for this unit.



Unit Number:	82	Planned Acres:	46.3	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
LUD:	ML	Harvest Acres:	36.3			VCU Number:	7460
Primary Watershed Code:	115A	Primary WAA Number:	405	Quad:	ktnc4sw	Photo:	1390-88
Number of Settings:	6	Logging Systems:	RS, LS	Total Estim	ated Harves	st Volume (MBF):	931

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	35.3	Noncommercial:	0.1	Primary Aspect:	S		
Visuals	Seen:	34.7						TLMP H	igh Value Marten Habitat:	35.4		
Mass Movement Index	High:	20.9	Very High:	0.0				1	Slopes Greater Than 72%:	1.5		
Wetland Type												
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC6 northwest to south: Sideslope Standards and Guidelines buffer (top of V-notch) buffer required.

Class II (direct) HC2 west to southeast: Greater of 100-foot or RMA (top of V-ntoch) buffer required.

Class II MM1 direct sout to west. Greater of 100-foot or RMA (top of V-ntoch) buffer required.

Class IV HCI northeast to southwest: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC6 northeast to southwest: Sideslope Standards and Guidelines or RMA (top of V-notch) buffer required.

GEOLOGY:

Unit is an area of low-vulnerability karst. No specific karst features have been located within this harvest unit and the potential to find significant features is low. Resource damage potential associated with land management activities in the area is not likely to be any greater than those posed by similar activities on non-carbonate rock.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 34.7 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 36 acres. Stand should regenerate naturally. Harvest deferred on 10 acres to meet Marten standards (see wildlife). CT 12/16/98

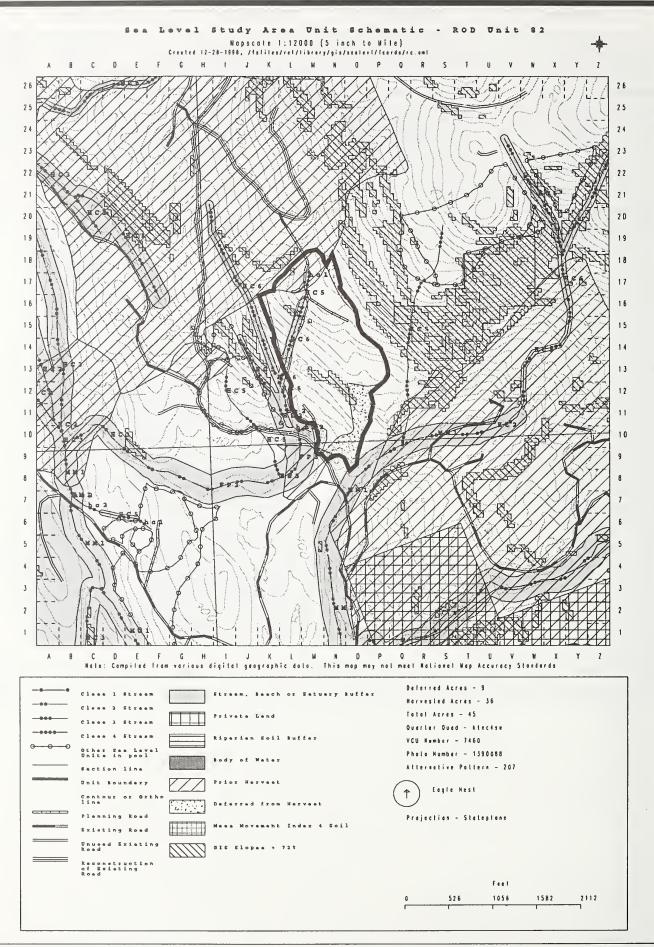
SOILS:

Unit includes high landslide potential (MMI=3) soils (BMP 13.5). There are 5.3 acres of MMI=3 soils which have been deferred from timber harvest (BMP 13.1). Use a low-impact logging system, which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Roads may require full-bench design to maintain slope stability (BMP 14.7). About 1.5 acres of this unit consists of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging systems designed for this unit are running skyline and live skyline. Confirm final road and landing locations.

WILDLIFE:



	_	Unit Data C	Jaiu -	Sea Level ROD			
Unit Number:	88	Planned Acres:	27.4	Silvicultural Systems:	2 age CCR	In Alternative:	5, 7
LUD:	ML	Harvest Acres:	18.3	Quad:	ktnc4sw	Photo:	1390-36
Primary Watershed Code:	113A 114A	Primary WAA Num	ber:	405		VCU Number:	7460

Total Estimated Harvest Volume (MBF):

470

RS

Unit Data Card - Sea Lavel DOD

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	12.1	High:	15.1	Noncommercial:	0.2	Primary Aspect:			
Visuals	Seen:	9.4						TLMP	High Value Marten Habitat:	16.5		
Mass Movement Index	High:	1.2	Very High:	0.0					Slopes Greater Than 72%:	0.6		
Wetland Type		Fore	ested Wetland:	17.1								
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

Number of Settings:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

Logging Systems:

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 south to southeast: Greater of 100-foot or RMA (top of sideslope) buffer required. Class II (nondirect) HC3 west: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Partial Retention VQO for 9.4 foreground acres.

SILVICULTURE:

Moderate productivity. Two-aged clearcut w/reserves, harvest 118 acres. Stand should regenerate naturally. Harvest deferred on 9 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

The western 2/3 of this unit (about 17 acres) consists of forested wetlands (BMP 12.5). Use a low-impact yarding system on these wetlands which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Use everlay road construction and minimize side ditching where practicable, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5 and 14.3). A small area (0.6 acres) of slopes >72 percent are included and cannot be avoided in the unit. This area will not be deferred. The eastern one third of the unit was deferred due to presence of Maybeso soils.

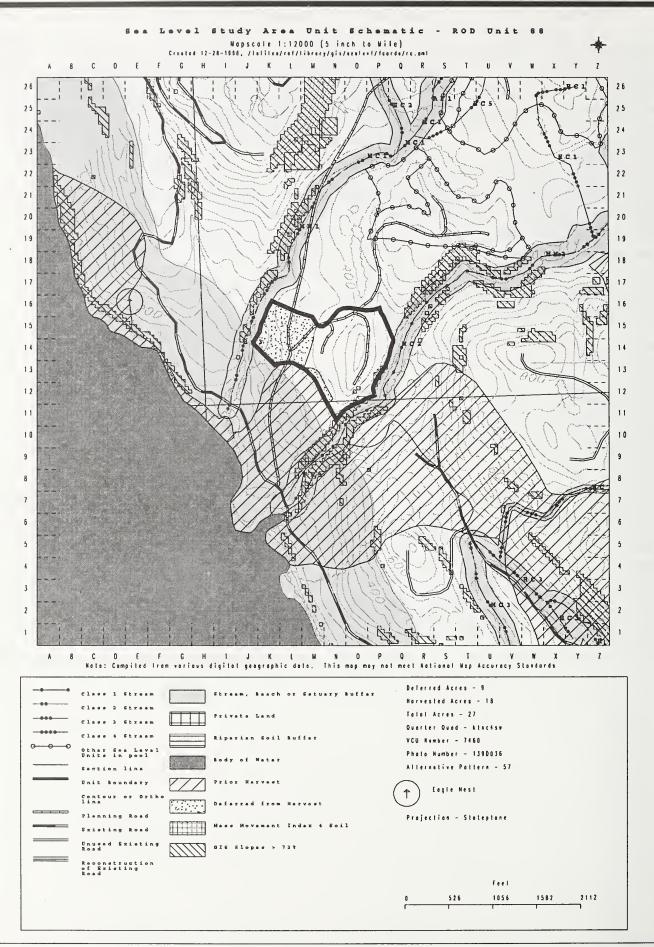
TIMBER

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.

Maintain 1000-foot beach buffer.



Unit Data Card - Sea Level ROD											
Unit Number:	89	Planned Acres:	30.4	Silvicultural Systems:	Even CCR	In Alternative:	5, 7				
LUD:	ML	Harvest Acres:	22.2	Quad:	ktnc4sw	Photo:	1390-36				
Primary Watershed Code:	II3A 114A			Primary WAA Number:	405	VCU Number:	7460				
Number of Settings:	9	Logging Systems:	RS	Total Esti	mated Harv	est Volume (MBF):	570				

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	3.0	Medium:	4.2	High:	23.2	Noncommercial:	0.0	Primary Aspect:	NNE		
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	23.9		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.2		
Wetland Type	:	Short Se	dge Meadow:	0.1			Forested Wetland:	13.8				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2//96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 south: Greater of 100-foot or RMA (top of sideslope) buffer required. Class II (direct) MM2 southeast: Greater of 120-foot or RMA buffer required. ClassI MC1 north: Greater of 100-foot or RMA (top of sideslope) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 22 acres. Stand should regenerate naturally. Harvest deferred on 8 acres to meet Marten standards (see wildlife). CT 12/16/98

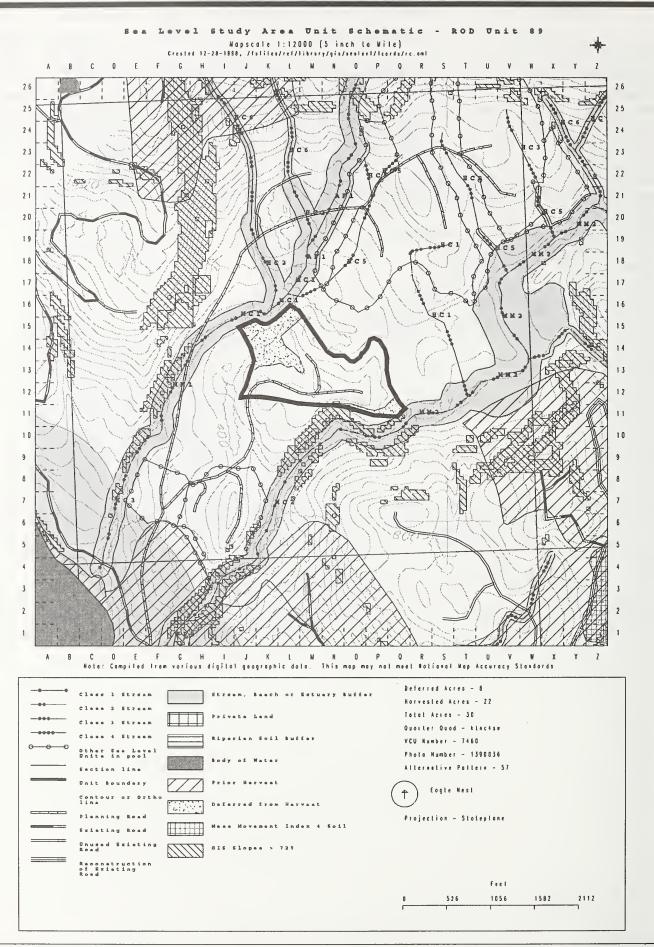
SOILS:

This unit contains about 14 acres of forested wetlands (BMP 12.5). Use a low-impact yarding system on these wetlands which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Use overlay road construction and minimize side ditching, where practicable, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5 and 14.3). The eastern one fourth of the unit was deferred due to presence of Maybeso soils. There is a small area (0.2 acres) of slope >72 percent included in the unit which cannot be avoided and will not be deferred.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	90	Planned Acres:	124.7	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	86.4	Quad:	ktnc4sw	Photo:	1390-36
Primary Watershed Code:	113A 114A			Primary WAA Number:	405	VCU Number:	7460
Number of Settings:	16	Logging Systems:	RS, S	L Total Esti	mated Harve	st Volume (MBF):	2,217

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	124.7	Noncommercial:	0.0	Primary Aspect:	S		
Visuals	Seen:	24.7						TLMP Hig	h Value Marten Habitat:	127.0		
Mass Movement Index	High:	15.9	Very High:	0.0				S	lopes Greater Than 72%:	3.1		
Wetland Type		Fore	sted Wetland:	26.8								
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95. Report #1995-05-05 add 1, 11/3/95, SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (nondirect) AFI west: Greater of 140-foot or RMA buffer required.

Class IV HC5 (2 each) west: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class IV HC1 center south: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class IV HC2 center southeast: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 south: Sideslope Standards and Guidelines or RMA (top of V-notch) buffer required.

Class IV HC3 east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 southeast: Sideslope Standards and Guidelines or RMA (top of V-notch) buffer required.

Class III HC6 east: Sideslope Standards and Guidelines or RMA (top of V-notch) buffer to form unit boundary.

Class II MM2 southeast. Greater of 120-foot or RMA buffer required to form unit boundary.

GEOLOGY:

This unit is located in a low-karst vulnerability zone. A sink-hole was located just outside the southwest unit boundary during recon. The proposed action will not affect this sink-hole. No specific karst features have been identified in this unit. Karst resource damage potential is no more likely than in areas of noncarbonate bedrock.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 24.7 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 86 acres. Stand should regenerate naturally. Harvest deferred on 38 acres to meet Marten standards (see wildlife). CT 12/16/98

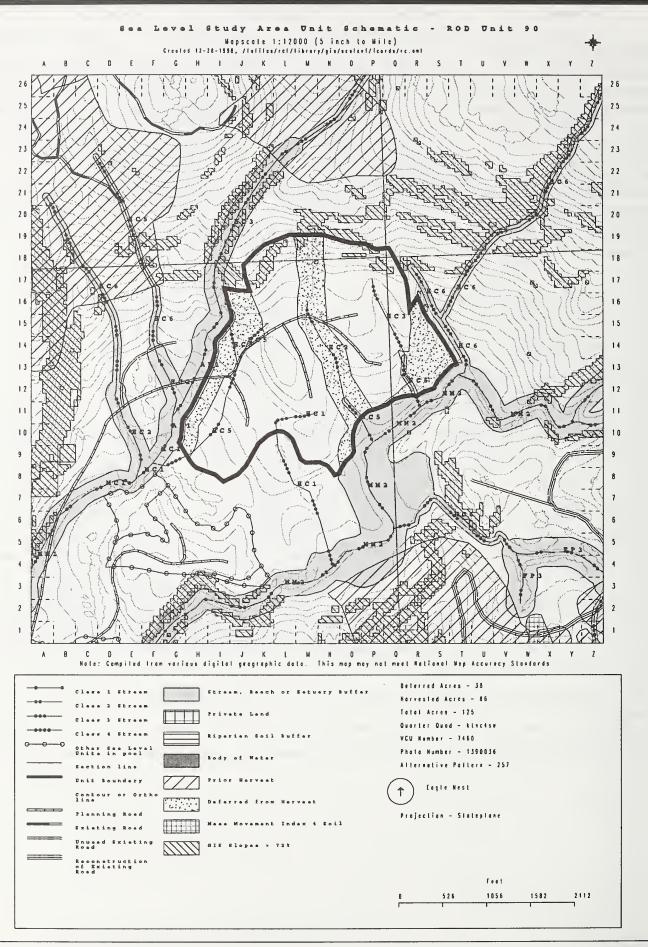
SOILS:

Almost 27 acres of forested wetlands are located in the southwest part of this unit (BMP 12.5). The north part of the unit is made up of high-landslide potential soils (MMI=3) (BMP 13.5). There are 3.8 acres of MMI=3 soils in deferral areas (BMP 13.1). Use a low-impact yarding system which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Roads have been located to avoid these wetland and high landslide potential areas (BMP 14.2). About 3 acres of this unit consist of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal risk and these slopes have been included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging systems designed for this unit are running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:



	Unit Data Card - Sea Level ROD											
Unit Number:	113	Planned Acres:	16.7	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7					
LUD:	TP	Harvest Acres:	12.4			VCU Number:	7570					
Primary Watershed Code:	FA3A	Primary WAA Number:	405	Quad:	ktnb4sw	Photo:	1390-138					
Number of Settings:	6	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	318					

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	16.4	Noncommercial:	0.3	Primary Aspect:	NE	
Visuals	Seen:	12.1						LUMP H	igh Value Marten Habitat:	16.7	
Mass Movement Index	High:	15.7	Very High:	0.0					Slopes Greater Than 72%:	0.8	
Wetland Type											
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MM1 east: Greater of 120-foot or RMA buffer required.

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 12.1 middleground acres.

SILVICIL TURE.

Moderately productive. Two-aged clearcut w/reserves, harvest 12 acres. Stand should regenerate naturally. Harvest deferred on 5 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

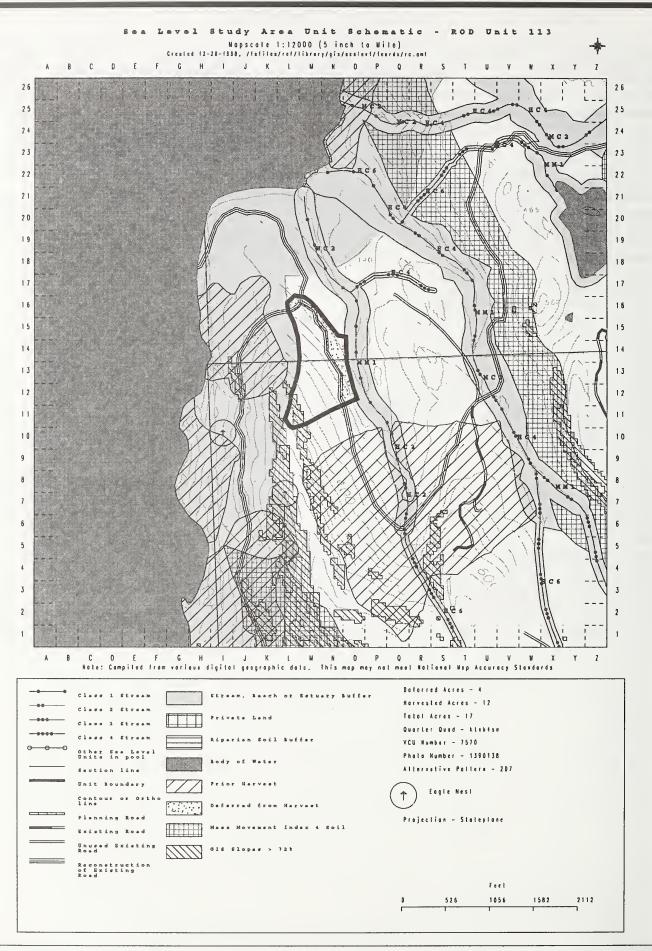
Most of this unit consists of high-landslide potential (MMI=3) soils (BMP 13.5). There are 3.3 acres of MMI=3 soils in deferral areas (BMP 13.1). Use a low-impact logging system which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Road construction will require some full-bench design in the southeast part of the unit (BMP 14.7). Avoid blasting for road construction and rock pit development when soils are saturated (BMP 14.6).

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Unit is within 0.5 miles of 2 bald eagle nests. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nests March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.



Unit Number:	118	Planned Acres:	59.8	Silvicultural System:	CC, DEF	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	54	Quad:	ktnb4sw	Photo:	1390-139
Primary Watershed Code:	E82A	Primary WAA Number:	405			VCU Number:	7570
Number of Settings:	6	Logging System:	RS/SL	Total Esti	mated Harve	est Volume (MBF):	1,386

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	48.6	High:	0.0	Noncommercial:	0.0	Primary Aspect:	W		
Visuals	Seen:	49.0						TLMP	High Value Marten Habitat:	0		
Mass Movement Index	High:	48.6	Very High:	0.0					Slopes Greater Than 72%:	3.7		
Wetland Type		Fore	sted Wetland:	19.8								
Notes: These numbers are acres												
The data is derived from	digital geo	graphic	data and so the	coverag	es may not m	eet Nat	ional Map Accuracy	y Standai	rds.			

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (nondirect) HC1 north: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class III HC6 west: Sideslope Standards and Guidelines or RMA (top of V-notch) buffer to form unit boundary.

Class IV (3 each) southwest: Fall trees away from streamcourse, split yard or full suspension required (BMP 43.16 and CT6.51b).

GEOLOGY:

High landslide potential areas. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VOO for 49 middleground acres.

SILVICULTURE:

Moderately productive. Even-aged clearcut, harvest 54 acres. Stand should regenerate naturally. CT 12/16/98

SOILS:

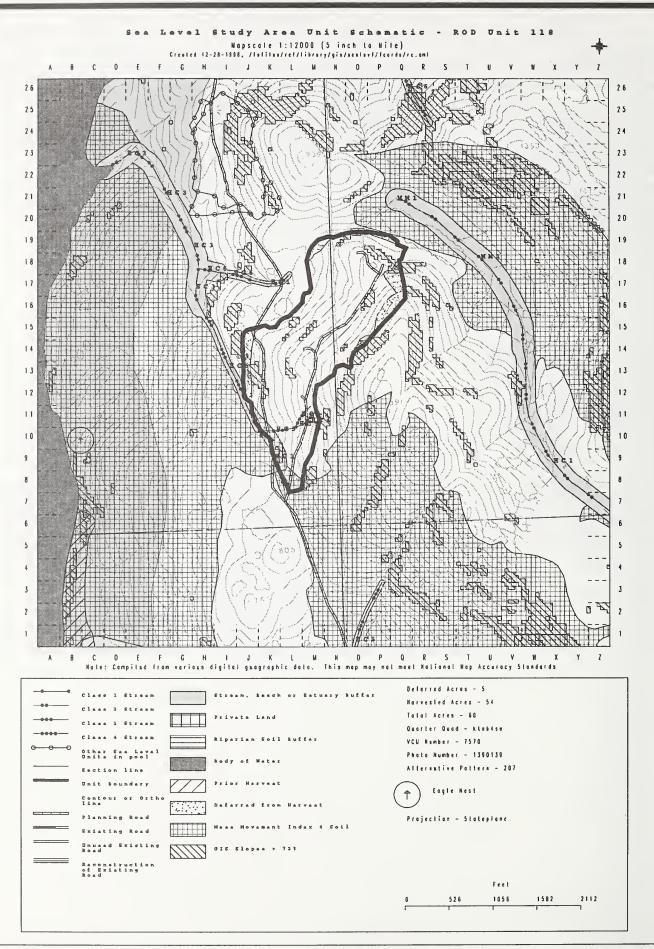
Unit includes high-landslide potential (MMI=3) soils (BMP 13.5). Unit contains almost 20 acres of forested wetlands (BMP 12.5). Use a low-impact logging system on these high-landslide potential and wetlands areas. Minimize ground disturbance and provide at least partial log suspension when yarding (BMP 13.9). Roads have been located to avoid wetland areas (BMP 14.2). The planned road alignment also avoids much of the potentially unstable slopes (BMP 14..2). However some road segments may require full-bench design in the southwest and central parts of the unit (BMP 14.7) to maintain slope stability. Limit blasting for road construction and rock pit development when soils are saturated (BMPs 14.6 and 14.18). About 3.7 acres of this unit consist of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources v as minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER.

The logging systems designed for this unit are running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:

Southwest portion of the unit is within 0.5 miles of bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.



Unit Number:	119	Planned Acres:	23	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	18.6	Quad:	ktnb4sw	Photo:	1390-140
Primary Watershed Code:	E82A	Primary WAA Number:	405			VCU Number:	7570
Number of Settings:	7	Logging System:	RS	Total Esti	mated Harve	est Volume (MBF):	477

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	3.6	High:	17.6	Noncommercial:	0.0	Primary Aspect:	W			
Visuals	Seen:	18.6						TLMP	High Value Marten Habitat:	18.2			
Mass Movement Index	High:	21.2	Very High:	0.0					Slopes Greater Than 72%:	4.0			
Wetland Type		Fore	sted Wetland:	0.8									
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (nondirect) HC3 southwest: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

High landslide potential in this unit. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 18.6 foreground acres.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, harvest 18.6 acres. Plant 3 acres with Alaska yellow cedar; the remainder of the stand should regenerate naturally. Harvest deferred on 4 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

This unit contains high-landslide potential (MMI=3) soils (BMP 13.5). There are 4.8 acres of MMI=3 soils in deferral areas (BMP 13.1). This unit also contains a small area of forested wetland (BMP 12.5). Use a low-impect legging system on these areas, which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). The planned access road is located on a bench which avoids areas of wetlands and potentially unstable slopes (BMPs 12.5, 14.2 and 14.7). This unit contains 4 acres of slopes greater than 72 percent. These slopes were placed in deferral areas.

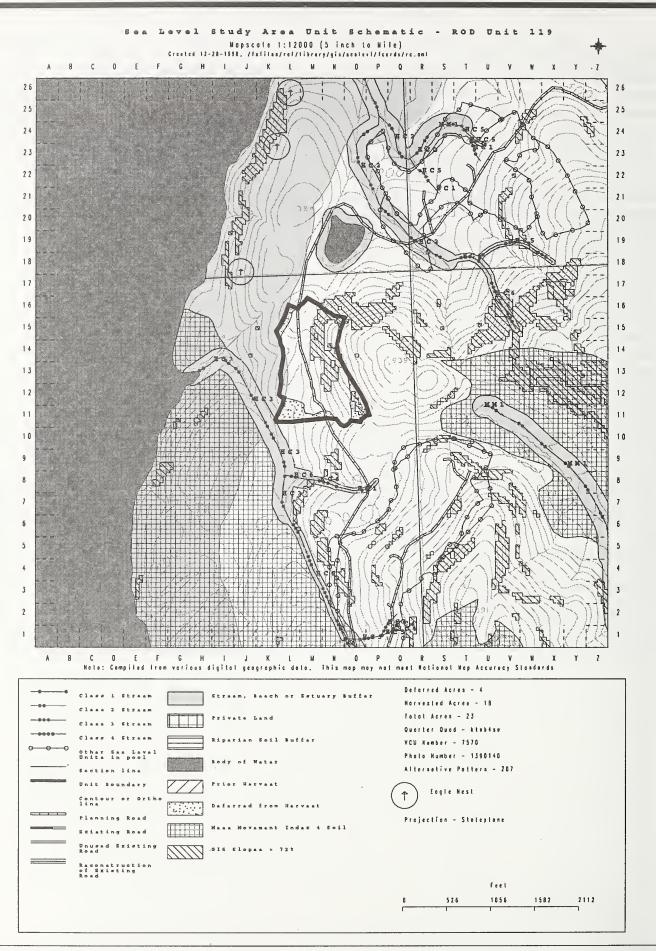
TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Unit is within 0.5 miles of two bald eagle nests. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nests March 1 through May 31. If nest is determined active, blasting is prohibited within 0.5 mile of nest June 1 through August 31.

Maintain 1000-foot beach/estuary buffer.



Unit Number:	120	Planned Acres:	55	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	ML	Harvest Acres:	30.4	Quad:	ktnb4sw	VCU Number:	7550
Primary Watershed Code:	E81A	Primary WAA Number:	405			Photo:	1390-140
Number of Settings:	8	Logging Systems:	RS/SL	Tota	l Estimated Har	vest Volume (MBF):	780

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	1.7	High:	41.1	Noncommercial:	0.0	Primary Aspect:	WNW			
Visuals	Seen:	30.4						TLMP	High Value Marten Habitat:	40.8			
Mass Movement Index	High:	7.3	Very High:	0.0					Slopes Greater Than 72%:	0.8			
Wetland Type		Fore	ested Wetland:	12.8									
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II HC2 west and center: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class IV HC5 center to north: Split yard and directional fall trees away from stream where practicable and partial suspension (BMP 13.16).

Class IV HC5 and Class IV HC1 east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class II HC2 northeast: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class II MM1 northeast: Greater of 120-foot or RMA buffer required.

GEOLOGY:

High landslide potential in the eastern part of the unit. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Partial Retention VQO for 11.2 foreground acres and the Modification VQO for 19.2 middleground acres.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 30.4 acres. Defer harvest on 4 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

The eastern part of this unit contains high-landslide potential (MMI=3) soils (BMP 13.5). There are about 13 acres of forested wetlands in the central part of the unit (BMP 12.5). The use of a low-impact logging system, such as running skyline, helicopter and shovel logging will minimize ground disturbance and provide partial or full log suspension when yarding on these sites (BMP 13.9). Access roads have been planned to avoid high-landslide potential areas (BMP 14.2). Road construction on wetlands should use an overlay construction and minimize the amount of side ditching to reduce the effects upon groundwater flow and wetland moisture regimes (BMPs 12.5, 14.3). Avoid the use of wetlands for the disposal of waste material and logging slash (BMP 14.19). About 1 acre of this unit consists of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2). A small sliver of the southern boundary was deffered due to presence of Maybeso soils.

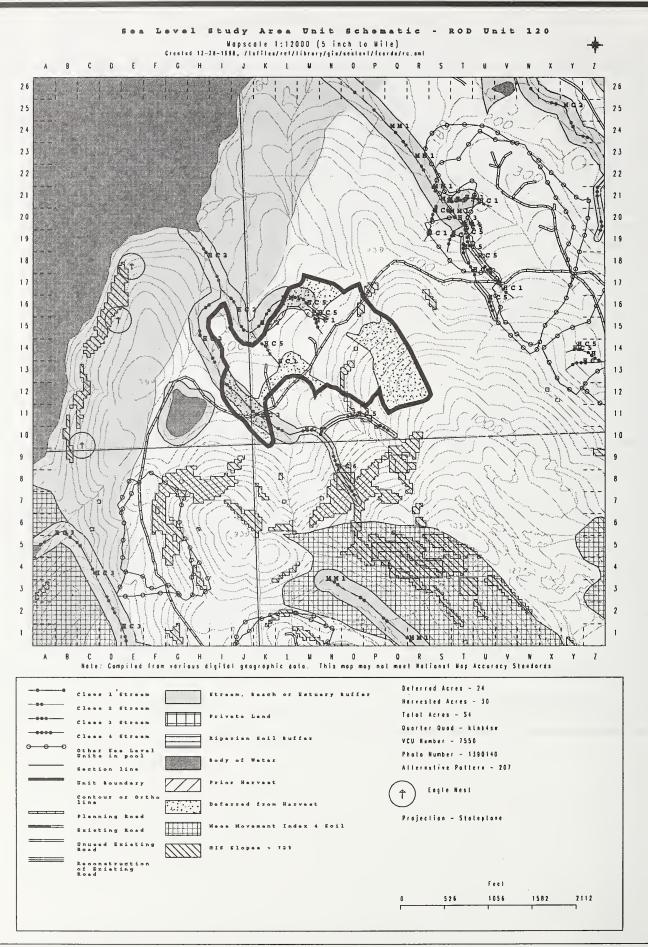
TIMBER:

The logging systems designed for this unit are running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:

Unit is within 0.5 miles of 3 bald eagle nests. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nests March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31. Avoid repeated helicopter flights (logging, heliports) within 0.25 mile of active nests.

Maintain 1,000-foot beach/estuary buffer.



L	Unit Data Card - Sea Level ROD												
	Unit Number:	121	Planned Acres:	67	Silvicultural Systems:	Even CCR	In Alternatives:	2,7					
$\ \cdot \ $	LUD:	TP	Harvest Acres:	47	Quad:	ktnb4sw	VCU Number:	7550					
	Primary Watershed Code:	FA2A	Primary WAA Number:	405			Photo:	1390-141					
\parallel	Number of Settings:	11	Logging Systems:	RS, SH	Total Esti	mated Harv	est Volume (MBF):	1,206					

PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	0.0	High:	66.0	Noncommercial:	0.0	Primary Aspect:	NNW			
Visuals	Seen:	22.3						TLMP	High Value Marten Habitat:	66.0			
Mass Movement Index	Low:	0.2	Medium:	65.5	High:	0.3	Very High:	0.0	Slopes Greater Than 72%:	0.0			
Wetland Type		Fore	sted Wetland:	8.3									
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) MM1 northwest: Greater of 120-foot or RMA buffer required.

Class II (direct) HC3 west: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class IV HC1 center north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class IV HC1 east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class II HC1 center to west: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class III HC5 west: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 22.3 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 47 acres. Stand should regenerate naturally. Harvest deferred on 20 acres to meet Marten standards (see wildlife). CT 12/16/98

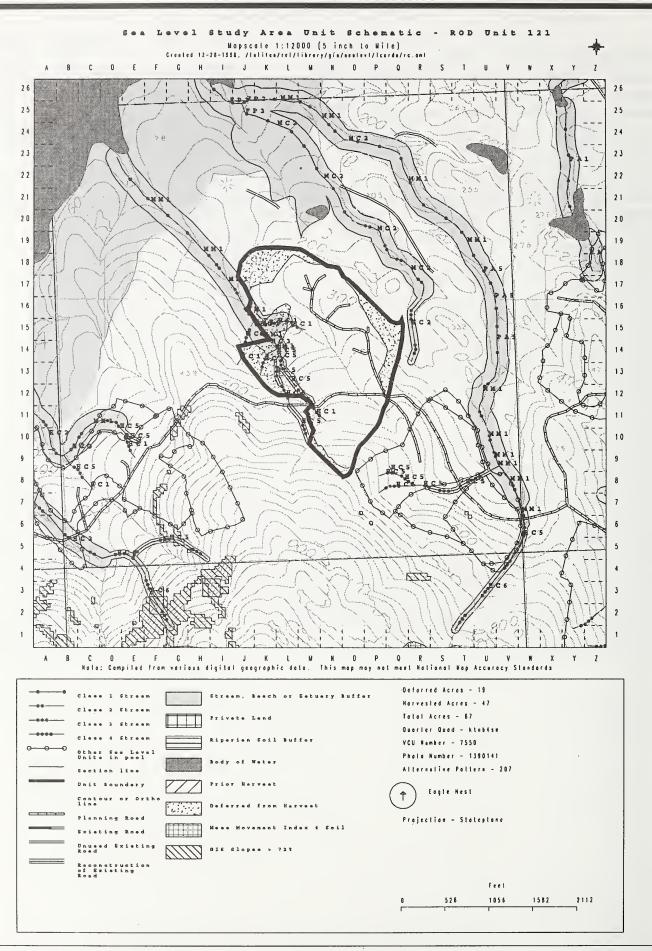
SOILS:

The eastern part of this unit contains about 8 acres of forested wetland (BMP 12.5). Use a low impact logging system which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Road location has been planned to avoid these wetlands (BMP 14.2).

TIMBER:

The logging systems designed for this unit are running skyline and shovel. Confirm final road and landing locations.

WILDLIFE:



		Unit Data C	Card -	Sea Level ROD			
Unit Number:	124	Planned Acres:	47.1	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	ML	Harvest Acres:	35.2	Quad:	ktnb4sw	VCU Number:	7550
Primary Watershed Code:	E80A	Primary WAA Number:	405			Photo:	1390-140
Number of Settings:	5	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	903

PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	0.0	High:	45.7	Noncommercial:	0.0	Primary Aspect:	NNE		
Visuals	Seen:	35.2						TLMP I	High Value Marten Habitat:	45.7		
Mass Movement Index	High:	24.1	Very High:	0.0					Slopes Greater Than 72%:	0.1		
Wetland Type		Fore	ested Wetland:	8.8								
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC5 northwest: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c)

Class III HC5 center to east: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class II (direct) MMI east: 120-foot RMA buffer required.

Class III HC5 and MM1 southeast: Sideslope Standard &Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class II (direct) MM1 north: 120-foot RMA buffer required.

GEOLOGY:

High landslide potential in the south part of the unit. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 35.2 middleground acres.

SILVICULTURE

Highly productive. Two-aged clearcut w/reserves, harvest 35 acres. Stand should regenerate naturally. Harvest deferred on 12 acres to meet Marten standards (see wildlife). CT 12/16/98

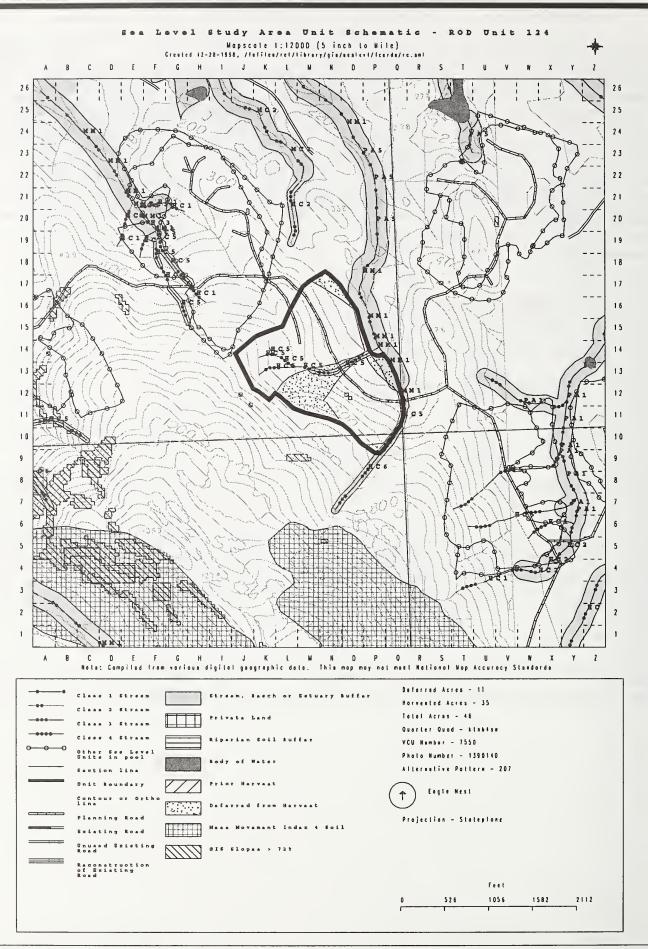
SOILS:

The south part of this unit contains about 24 acres of high-landslide potential (MMI=3) soils (BMP 13.5). Almost 18 acres of MMI=3 soils have been deferred from timber harvest (BMP 13.1). The north part of the unit contains about 9 acres of forested wetlands (BMP 12.5). Use a low-impact logging system on these wetlands and high-landslide potential areas, which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Roads have been located in these wetlands to avoid high-landslide potential slopes (BMP 14.2). Use overlay road construction and minimize side ditching on these wetlands to minimize effects upon groundwater flow (BMPs 12.5, 14.3). Avoid placing overburden or other fill material in these wetlands (BMP 14.19). A small area (0.1 acres) of slopes >72 percent are included and cannot be avoided in the unit. This area will not be deferred. Field check the status of the forested wetland soils during unit layout to determine Kaikli, Maybeso, Kitkun or Karheen.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	125	Planned Acres:	56.4	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	36.9	Quad:	ktnb4se	VCU Number:	7550
Primary Watershed Code:	E79A	Primary WAA Number:	405			Photo:	1390-160
Number of Settings:	19	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	947

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	12.8	High:	39.8	Noncommercial:	0.0	Primary Aspect:	ENE				
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	38.1				
Mass Movement Index	High:	6.6	Very High:	0.0					Slopes Greater Than 72%:	0.1				
Wetland Type		For	ested Wetland:	12.7										
Notes: These numbers are acres unless otherwise specified.														
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.														

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I PA1 northwest: Greater of 100-foot or RMA buffer required.

CEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 36.9 acres. Plant 5 acres of Alaska yellow cedar the remainder of the stand should regenerate naturally. Harvest deferred on 19.5 acres to meet Marten standards (see wildlife). CT 12/16/98

SOIL S

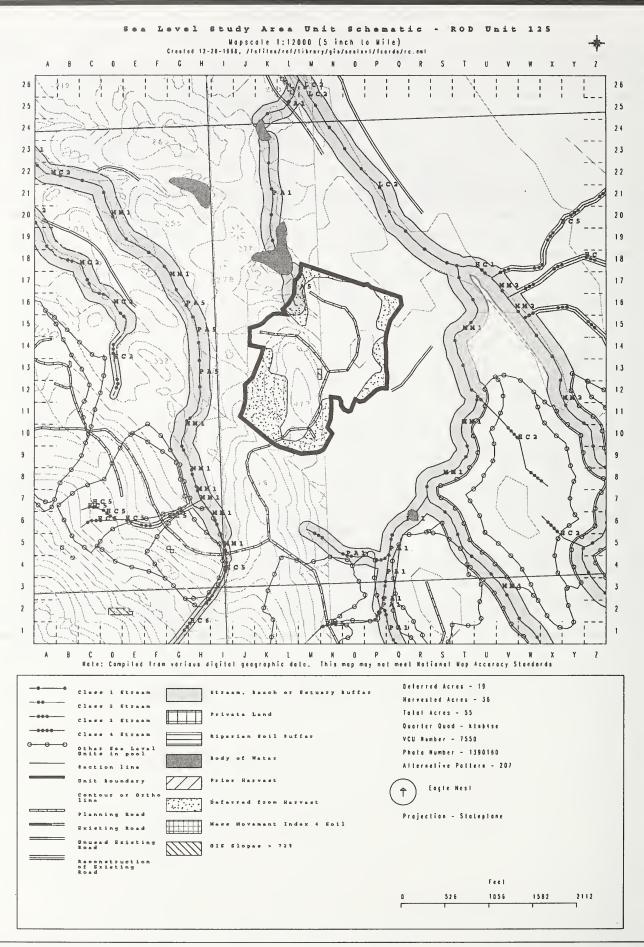
The south side of this unit contains forested wetlands (BMP 12.5). Recommend that a low-impact yarding system, which provides at least partial log suspension be used when yarding (BMP 13.9) on wetlands and high-landslide potential soils. If possible, avoid locating roads and log landings in these wetlands (BMP 14.2). These wetlands should not be used for the disposal of waste material or logging slash (BMP 14.19). This unit contains 6.6 acres of high-landslide potential (MMI=3) soils (BMP 13.5). There are 4.6 acres of MMI=3 soils which have been deferred from timber harvest (BMP 13.1). A small area (0.1 acres) of slopes >72 percent are included and cannot be avoided in the unit. This area will not be deferred.

TIMBED

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Maintain small Old-growth Habitat Reserve along north boundary of unit.



	Unit Number:	126	Planned Acres:	50.6	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
lÌ	LUD:	TP	Harvest Acres:	38.5	Quad:	ktnb4se	VCU Number:	7550
II	Primary Watershed Code:	E79A	Primary WAA Number:	405			Photo:	1390-160
I	Number of Settings:	8	Logging System:	RS/SI	Total Esti	mated Harv	est Volume (MBF):	988

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	10.9	Medium:	33.5	High:	0.0	Noncommercial:	0.0	Primary Aspect:	Е				
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	0.0				
Mass Movement Index	High:	44.4	Very High:	0.0					Slopes Greater Than 72%:	0.0				
Wetland Type		Short S	edge Meadow:	0.6			Forested Wetland:	9.2						
	Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III PA1 northeast: Stream forms unit boundary. Fall trees away from streamcourse, split yard or full suspension required (BMP 13.16 and CT6.51b).

Class IV HC1 & HC5 center to east (3 each): Fall trees away from streamcourse, split yard or full suspension required (BMP 13.16 and CT6.51b).

Class IV HC5 southwest to east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class II (direct) HCI PAI east: Greater of 120-foot or RMA buffer required.

Class 11 (direct) HC2 southeast: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class III HC6 south to east. Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Even-aged clearcut w/reserves, harvest 38.5 acres. Stand should regenerate naturally. Harvest deferred on 12 acres for organic soil concerns. Monitoring for regeneration of Pacific Silver Fir. CT 12/16/98

SOILS:

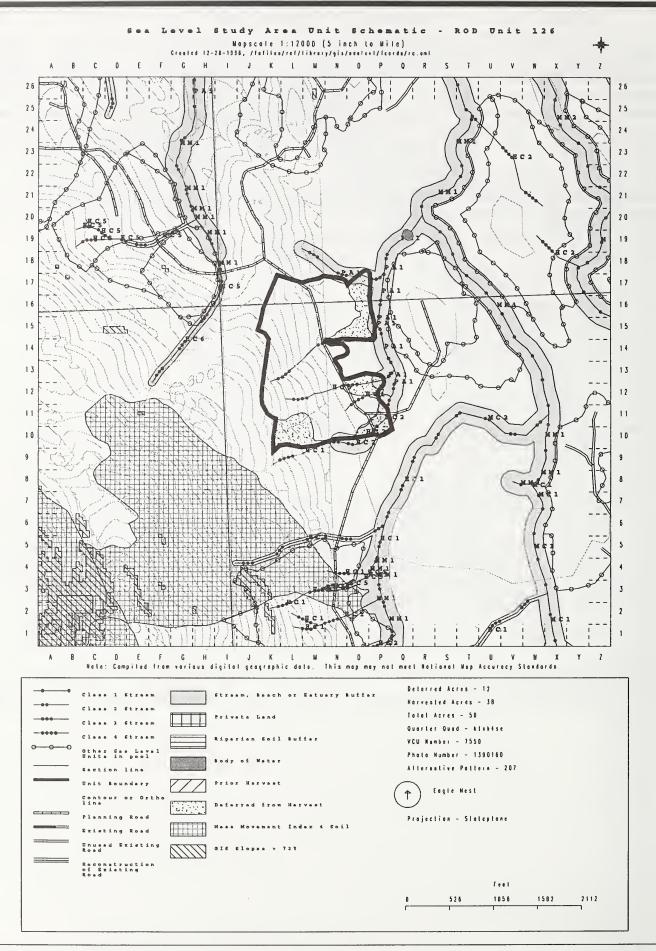
Most of this unit consists of high-landslide potential (MMI=3) soils (BMP 13.5). There are 7.2 acres of MMI=3 soils in deferral areas (BMP 13.1). The north part of the unit contains about 9 acres of forested wetlands (BMP 12.5). Use a low-impact logging system on these wetlands and MMI=3 soils to minimize ground disturbance and provide at least partial log suspension when yarding (BMP 13.9). Road construction on steep, potentially unstable slopes may require full-bench design (BMP 14.7). Limit blasting for road construction and rock pit development when the soil is saturated (BMP 14.6). Use overlay road construction and minimize side ditching, where practicable, on wetlands, to minimize the effects upon groundwater flow (BMP 14.3). Avoid the use of these wetlands for the disposal of waste material or logging slash (BMP 14.19).

TIMBER:

The logging systems designed for this unit are running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:

No wildlife mitigation anticipated for this unit. Stand has Sensitive Plant concerns specifically *Platenthera Corisiana*. The unit boundary was adjusted to account for all three populations; see resource report.



		Unit Dat	a Car	d - Sea Level RO	D		
Unit Number:	133	Planned Acres:	55.6	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	42.3	Quad:	ktnb4sw	VCU Number:	7550
Primary Watershed Code:	E79A	Primary WAA Number:	405			Photo:	1390-160
Number of Settings:	7	Logging Systems:	RS/SH	/SL Total Esti	mated Harv	est Volume (MBF):	1,085

PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	14.5	High:	0.0	Noncommercial:	0.0	Primary Aspect:	Е			
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	18.0			
Mass Movement Index	High:	0.1	Very High:	0.0					Slopes Greater Than 72%:	0.5			
Wetland Type		Short Se	edge Meadow:	0.3			Forested Wetland:	6.4					
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III AF1 east: Variable 25-100 foot no cut buffer. Individual tree selection required for timber harvest within the 140 foot RMA buffer.

(See watershed analysis, Appendix D, for details).

Class III HC5 north: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class IV HC1 north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class IV HC1 and HC5 north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class IV HC1 north center (2 each): Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC6 and HC2 south center: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required. Class III HC6 and HC2 south center: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III HC5 south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class II (direct) MM1 into HC1: Greater of 120-foot or RMA buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

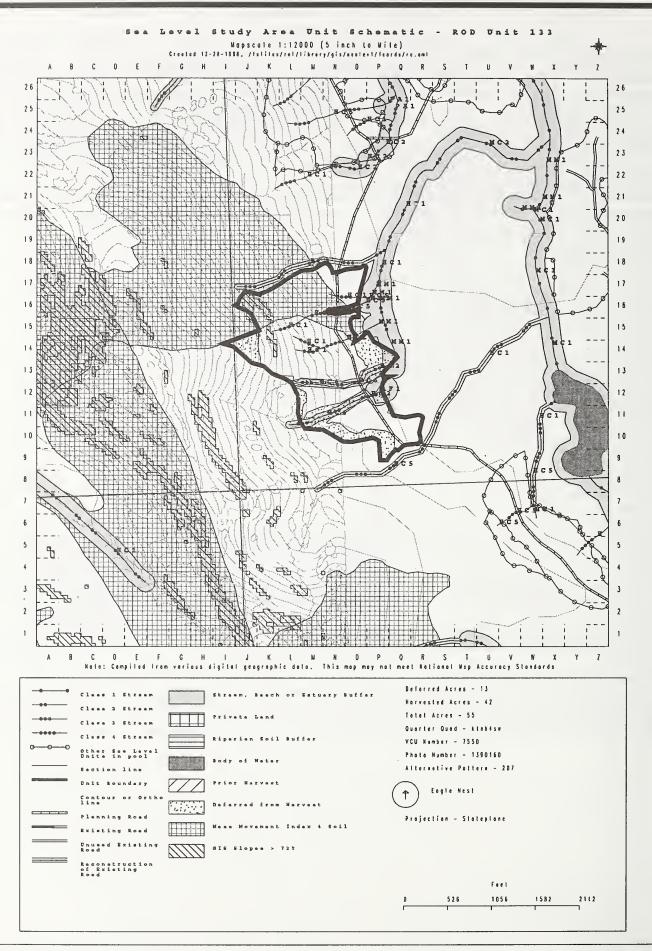
Highly productive. Two-aged clearcut w/reserves, harvest 42.3 acres. Plant 3 acres with Alaska yellow cedar; the remainder of the stand should regenerate naturally. Harvest deferred on 13 acres to meet Marten standards (see wildlife). Monitor regeneration of Pacific Silver Fir. CT 10/22/97

The upper part of this unit contains about 6 acres of forested wetland (BMP 12.5). The planned access road has been located to avoid these wetlands (BMPs 14.1, 14.2). About a half acre of this unit consist of slopes greater than 72 percent. This slope has been placed in a deferral area.

TIMBER:

The logging systems designed for this unit are running skyline, shovel and slackline. Confirm final road and landing locations. Verify feasibility of split yarding or full suspension of Class III streams within unit and adjust roads, landings, or modify unit boundary if required. Shovel log and stage fell ITM area to protect residual trees.

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+). This stand has Sensitive Plant concerns outside of the boundary where field crews have been accessing the unit from the helispot to the west. Please avoid if possible. The plant is Listera convallarioides; see resource report.



Unit Number:	134	Planned Acres:	28.8	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	23.1	Quad:	ktnb4se	VCU Number:	7550
Primary Watershed Code:	E79A	Primary WAA Number:	405			Photo:	1390-161
Number of Settings:	5	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	593

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	24.4	High:	0.0	Noncommercial:	0.0	Primary Aspect:	NE		
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	0.0		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0		
Wetland Type		Fore	sted Wetland:	22.7		Scr	ub-Shrub Muskeg:	0.9				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MM2 (direct) east: Greater of 120-foot or RMA buffer required.

Class III HC5 northeast: Sideslope Standard & Guideline or RMA (top of V-notch) buffer to form unit boundary.

Class IV HC5 & HC1 north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13-16 and CT6-51c)

Class IV HC5 & HC1 center east: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Even-aged clearcut w/reserves, harvest 23 acres. Stand should regenerate naturally. Harvest deferred on 6 acres for organic wetland concerns. CT 12/16/98

SOILS:

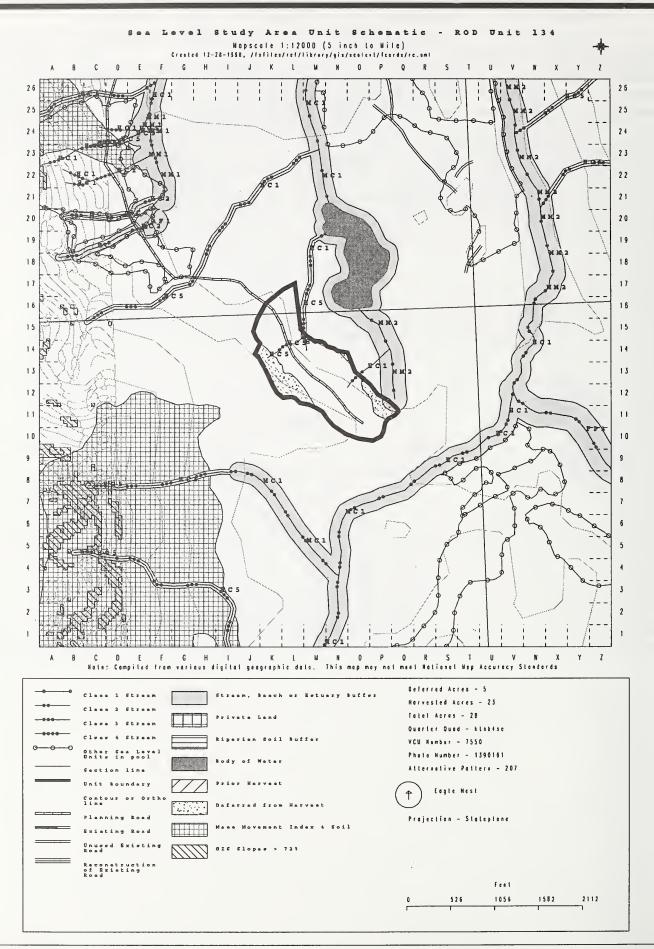
Most of this harvest unit is made up of forested wetland and scrub-shrub muskeg wetlands (BMP 12.5). Recommend the use of a low-impact harvest system that will minimize ground disturbance and provide at least partial log suspension when yarding (BMP 13.9). Use overlay road construction and minimize side ditching, where practicable, to minimize the effects upon groundwater flow (BMP 14.3). Avoid the use of these wetlands for the disposal of waste material or logging slash (BMP 14.19). Field check the status of the forested wetland soils during unit layout to determine Kaikli, Maybeso, Kitkun or Karheen.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE

No wildlife mitigation anticipated for this unit. This stand has sensitive plant concerns, specifically *Platanthera chorisiana*. Protection of plants in this unit will be difficult and additional analysis and planning is needed; see resource report.



Unit Number:	135	Planned Acres:	87.7	Silvicultural Systems:	2 age CCR	In Alternative:	2, 7
LUD:	TP	Harvest Acres:	18.8	Quad:	ktnb4se	Photo:	1390-160
Primary Watershed Code:	E79A	Primary WAA Number:	405			VCU Number:	7550
Number of Settings:	18	Logging Systems:	RS	Total Esti	mated Harve	est Volume (MBF):	482

PHYSICAL DESCRIPTION											
Volume Strata	Low:	44.7	Medium:	42.3	High:	0.1	Noncommercial:	0.0	Primary Aspect:	W	
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	0	
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0	
Wetland Type		Fore	sted Wetland:	63.2		Sci	rub-Shrub Muskeg:	2.1	Riparian Forest:	0.5	
Notes: These numbers are acres unless otherwise specified.											
The data is derived from	The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MM2 east: Greater of 120-foot or RMA buffer to form unit boundary. Class I MM1 west: Greater of 120-foot or RMA buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive, two-aged clearcut w/reserves, harvest 18.8 acres. Plant 2 acres of Alaska Yellow Cedar. The remainder of the stand should regenerate naturally. Harvest deferred on 68.9 acres for organic wetland concerns. CT 12/16/98

SOILS:

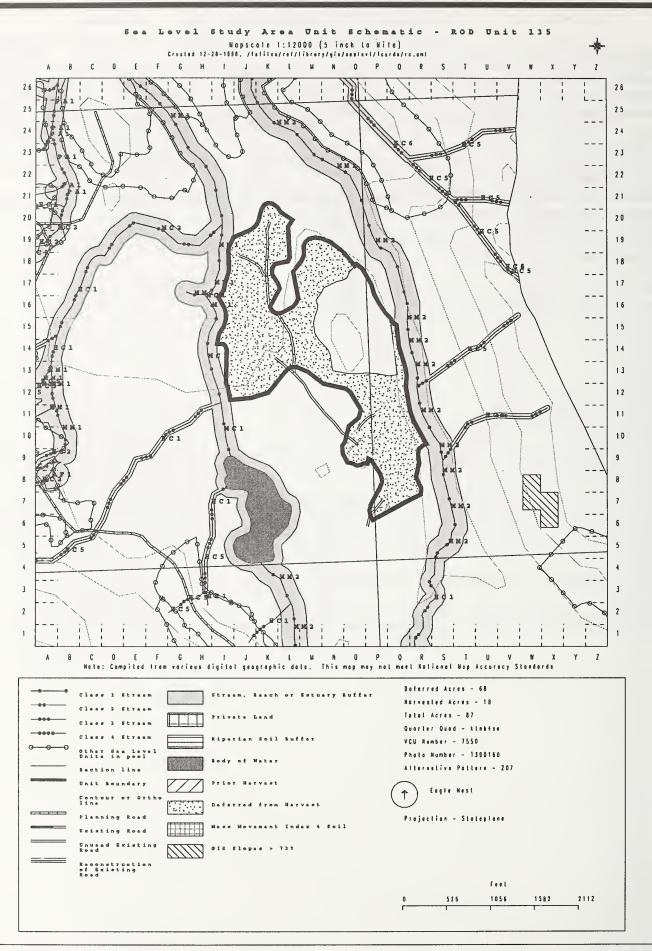
This unit includes over 65 acres of forested wetlands and scrub-shrub muskeg (BMP 12.5). Running skyline and shovel logging are low-impact logging systems which will minimize ground disturbance and provide at least partial log suspension on these wetlands (BMP 13.9). Construction of access roads on these wetlands is unavoidable due to their extensive distribution (BMPs 14.1, 14.2). Use overlay road construction and minimize side ditching, where practicable, to minimize the effects upon groundwater flow (BMP 14.3). Avoid the placement of waste material, logging slash or other fill on these wetlands (BMP 14.19). Three-fourths of the unit have been deffered due to Kaikii soils.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE

No wildlife mitigation anticipated for this unit.



Unit Number:	141	Planned Acres:	65.2	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	36.6	Quad:	ktnb4sw	VCU Number:	7570
Primary Watershed Code:	FA4A	Primary WAA Number:	405			Photo:	1390-118
Number of Settings:	12	Logging Systems:	RS/SH	Total Esti	mated Harve	est Volume (MBF):	939

	PHYSICAL DESCRIPTION										
Volume Strata	Low:	0.0	Medium:	0.0	High:	63.8	Noncommercial:	0.0	Primary Aspect:	WSW	
Visuals	Seen:	35.5						TLMP	High Value Marten Habitat	63.8	
Mass Movement Index	High:	22.1	Very High:	0.0					Slopes Greater Than 72%:	5.6	
Wetland Type		Fore	ested Wetland:	12.7							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns, Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) HC2 south: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

High landslide potential in the north part of this harvest unit. See Soils for mitigation measures. Area of low-karst vulnerability. No karst features have been identified within this unit and the potential to find significant karst resources is low.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 32.8 foreground aces and the Maximum Modification VQO for 2.7 middleground acres.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, harvest 36.6 acres. Stand should regenerate naturally. Harvest deferred on 28.6 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

Unit has about 22 acres of high-landslide potential soils in the northern part (BMP 13.5). Almost 13 acres of these soils have been deferred from timber harvest (BMP 13.1). The unit contains almost 13 acres of forested wetlands (BMP 12.5). Use a low-impact logging system on these wetlands and high-landslide potential areas, which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Access roads have been located to avoid these wetlands and high-landslide potential areas (BMPs 14.1, 14.2). This unit contains 5.6 acres of slopes greater than 72 percent. There are 3.5 acres in a deferral area (BMP 13.5). The rest of these slopes were evaluated by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2). During unit layout, field check status of forested wetland soils to determine Kaikli, Mayoeso, Kitkun or Karheen.

TIMBER:

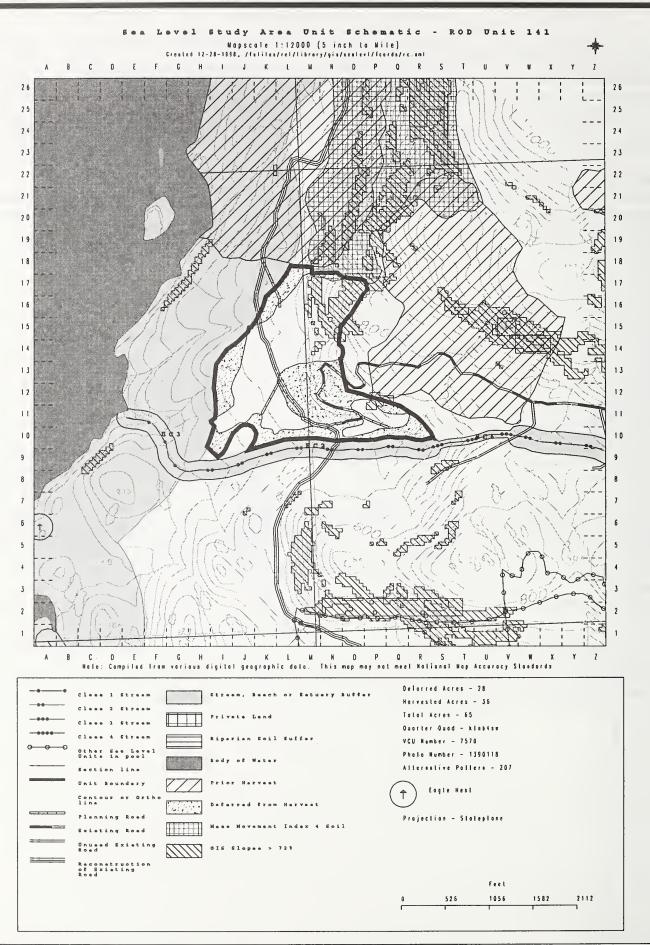
The logging systems designed for this unit are shovel and running skyline. Confirm final road and landing locations.

WILDLIFE:

Maintain 1,000-foot beach buffer.

Marten guidelines apply: maintain 10 to 20 percent of canopy, average 4 large trees per acre (20 to 30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20 to 30"+).

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.



Unit Number:	143	Planned Acres:	87.6	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	53.4	Quad:	ktnb4sw	VCU Number:	7570
Primary Watershed Code:	E85A	Primary WAA Number:	405			Photo:	1390-135
Number of Settings:	15	Logging System:	RS	Total Esti	mated Harve	est Volume (MBF):	1,370

PHYSICAL DESCRIPTION											
Volume Strata	Low:	1.8	Medium:	18.6	High:	67.3	Noncommercial:	0.0	Primary Aspect:	S	
Visuals	Seen:	37.8						TLMP	High Value Marten Habitat:	66.6	
Mass Movement Index	High:	81.5	Very High:	0.0					Slopes Greater Than 72%:	9.8	
Wetland Type		Fore	ested Wetland:	31.5							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I and Class II (direct) MC2: Greater of 100-foot or RMA (top of sideslope) buffer.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 37.8 middleground acres.

SILVICULTURE:

Moderately productive. Even-aged clearcut w/reserves, harvest 53 acres. Stand should regenerate naturally. Harvest deferred on 35 acres to meet Marten standards (see wildlife). CT 12/16/98

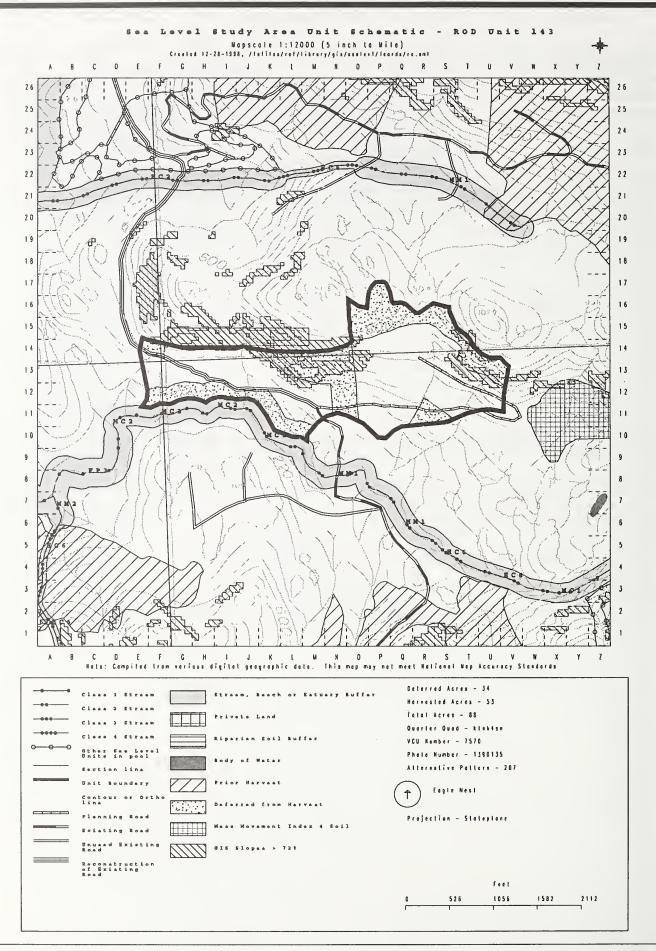
SOILS:

This unit contains 9.8 acres of slopes greater than 72 percent. There are 6.1 acres of these steep slopes in deferral areas (BMP 13.5). An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2). During unit layout, field check the status of forested wetland soils for Kaikli, Maybeso, Kitkun, or Karheen soils.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	145	Planned Acres:	60.1	Silvicultural Systems: 2age SWR	In Alternative:	2, 7
LUD:	TP	Harvest Acres:	18.6	Quad: ktnb4sw	Photo:	1390-135
Primary Watershed Code:	E85A	Primary WAA Number:	405		VCU Number:	7570
Number of Settings:	7	Logging System:	HE	Total Estimated Harve	st Volume (MBF):	477

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.1	Medium:	50.7	High:	9.4	Noncommercial:	0.0	Primary Aspect:	NNE		
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	9.0		
Mass Movement Index	Low:	16.8	Medium:	0.0	High:	43.4	Very High:	0.0	Slopes Greater Than 72%:	8.3		
Wetland Information		Fores	sted Wetland:	46.9		Sci	ub-Shrub Muskeg:	13.3				
Notes: These numbers are acres unless otherwise specified.												
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) FP3 northeast: Greater of 130-foot or floodplain RMA buffer required.

Class II (direct) MCI east: Greater of 120-foot or RMA (top of V-notch) buffer required. Class II (direct) PA2 east: 100-foot Standard & Guideline buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged shelterwood w/reserves, 18.6 acres using delineation by description. Stand should regenerate naturally. Harvest deferred on 33.2 acres to meet Marten standards (see wildlife) and for organic wetland concerns. CT 12/16/98

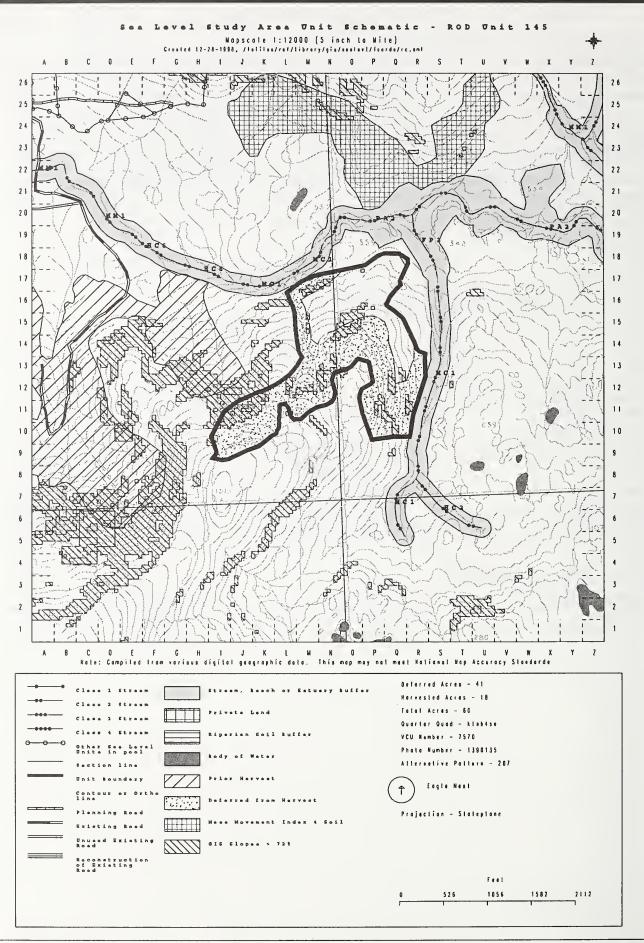
SOILS:

The entire unit consists of forested wetland and scrub-shrub muskeg (BMP 12.5). Helicopter logging is a low-impact logging system that will minimize surface disturbance and disruption of water flow and other wetland functions (BMP 13.9). This unit contains 8.3 acres of slopes greater than 72 percent. There are 4.6 acres of these steep slopes in deferral areas (BMP 13.5). On the other slopes an on-site analysis by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2). Along the southern boundary the Kaikli soils have been deferred.

TIMBER:

The logging system designed for this unit is helicopter.

WILDLIFE



Unit Number:	168	Planned Acres:	34.6	Silvicultural Systems:	2 age SWR, CCR	In Alternative:	2, 7
LUD:	TP	Harvest Acres:	19.6	Quad:	ktnb4sw	Photo:	1390-74
Primary Watershed Code:	E77A	Primary WAA Number:	405			VCU Number:	7560
Number of Settings:	7	Logging Systems:	RS	То	tal Estimated Harv	est Volume (MBF):	503

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	34.6	Noncommercial:	0.0	Primary Aspect:	NNE		
Visuals	Seen:	7.3						TLMP	High Value Marten Habitat	34.6		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0		
Wetland Type		Fores	ted Wetlands:	15.1								
Notes: These numbers are acres	Notes: These numbers are acres unless otherwise specified.											
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class 1 HC3 northeast: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (direct) HC3 north: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class II (direct) FP3 north: Greater of 130-foot or floodplain RMA buffer required.

Class II (direct) MM1 north; Greater of 120 foot or RMA buffer required.

Class III HC5 east: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III HC5 (2 each) northeast: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQOfor 4.0 foreground acres and Maximum Modification for 3.3 middleground acres.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, 16 acres. Leave approximately 15 acres unharvested to meet Marten standards (see wildlife). Individual tree selection will be used to harvest 4 acres for silvicultural objectives and to meet Marten standards. Stand should regenerate naturally. CT 12/16/98

The southern and western parts of this unit consist of forested wetlands (BMP 12.5). Provide at least partial log suspension when yarding on these wetlands to minimize the disruption of wetland functions (BMP 13.9). No road construction is planned on these wetlands (BMP 14.2).

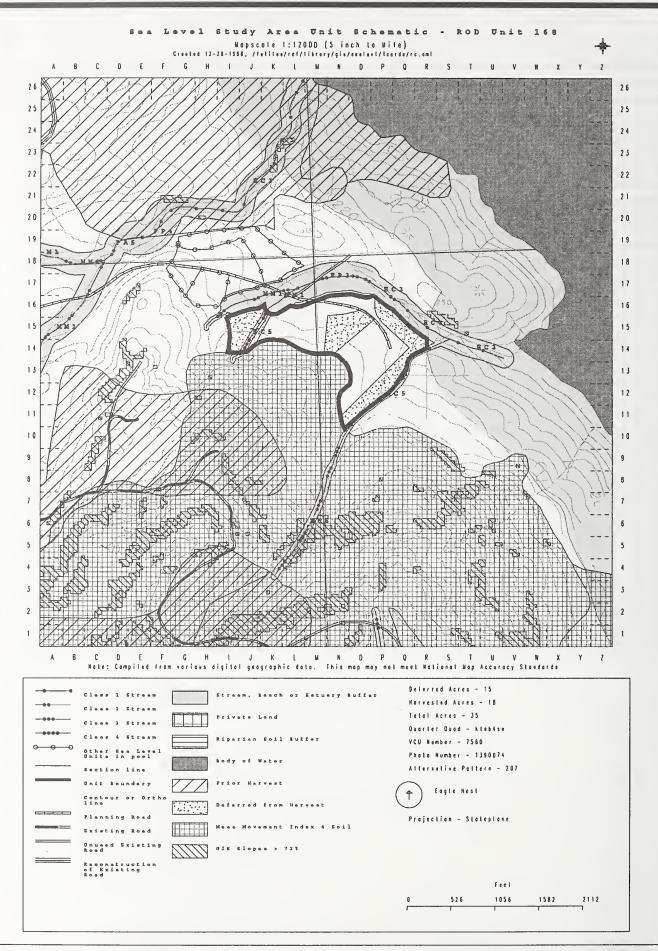
TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).

Maintain 1000-foot beach buffer.



Unit Number:	203	Planned Acres:	93.8	Silvicultural Systems:	2 age CCR	In Alternative:	2, 7
LUD:	SV	Harvest Acres:	46.8	Quad:	ktnb5se	VCU Number:	7460
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-183
Number of Settings:	15	Logging Systems:	RS, SL,	SH Total Esti	mated Harv	est Volume (MBF):	1,201

PHYSICAL DESCRIPTION											
Low:	0.4	Medium:	13.9	High:	71.4	Noncommercial:	0.0	Primary Aspect:	WNW		
Seen:	45.1						TLMP	High Value Marten Habitat:	13.0		
High:	81.4	Very High:	0.0					Slopes Greater Than 72%:	12.7		
	Fore	sted Wetland:	10.7		Scru	b-Shrub Muskeg:	0.1				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											
	Seen: High:	Seen: 45.1 High: 81.4 Fore unless otherwise spe	Low: 0.4 Medium: Seen: 45.1 High: 81.4 Very High: Forested Wetland: sunless otherwise specified.	Low: 0.4 Medium: 13.9 Seen: 45.1 High: 81.4 Very High: 0.0 Forested Wetland: 10.7 sunless otherwise specified.	Low: 0.4 Medium: 13.9 High: Seen: 45.1 High: 81.4 Very High: 0.0 Forested Wetland: 10.7 sunless otherwise specified.	Low: 0.4 Medium: 13.9 High: 71.4 Seen: 45.1 High: 81.4 Very High: 0.0 Forested Wetland: 10.7 Scruss otherwise specified.	Low: 0.4 Medium: 13.9 High: 71.4 Noncommercial: Seen: 45.1 High: 81.4 Very High: 0.0 Forested Wetland: 10.7 Scrub-Shrub Muskeg: sunless otherwise specified.	Low: 0.4 Medium: 13.9 High: 71.4 Noncommercial: 0.0 Seen: 45.1 TLMP I High: 81.4 Very High: 0.0 Forested Wetland: 10.7 Scrub-Shrub Muskeg: 0.1 sunless otherwise specified.	Low: 0.4 Medium: 13.9 High: 71.4 Noncommercial: 0.0 Primary Aspect: Seen: 45.1 TLMP High Value Marten Habitat: High: 81.4 Very High: 0.0 Slopes Greater Than 72%: Forested Wetland: 10.7 Scrub-Shrub Muskeg: 0.1		

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC4 center to north: Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c). Class III HC5 center to north: Sideslope Standard & Guideline buffer (top of V-notch) to form small portion of unit boundary. Class IV HC4 cast (2 each). Fall trees away from streamcourse, split yard or partial suspension required (BMP 13.16 and CT6.51c).

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As seen from the surface of North Saddle Lakes, most of this unit is located in the middleground distance on the south ridge line. Visible portions of harvest should primarily resemble a landslide chute. Other visual impacts will be a noticeable break in forest car opy and exposed, vertical tree boles along the unit backline, however, harvesting this unit will meet the intent of the Forest Plan and a Partial Retention VQO, Scenic Viewshed LUD. Sites and sounds from timber harvest may affect an occasional lake recreationist during sale operations.

SILVICULTURE:

Moderately productive. Two-aged clearcut w/reserves, 46.8 acres. Stand should regenerate naturally. Harvest deferred on 47 acres to meet Marten standards (see wildlife). CT 12/16/98

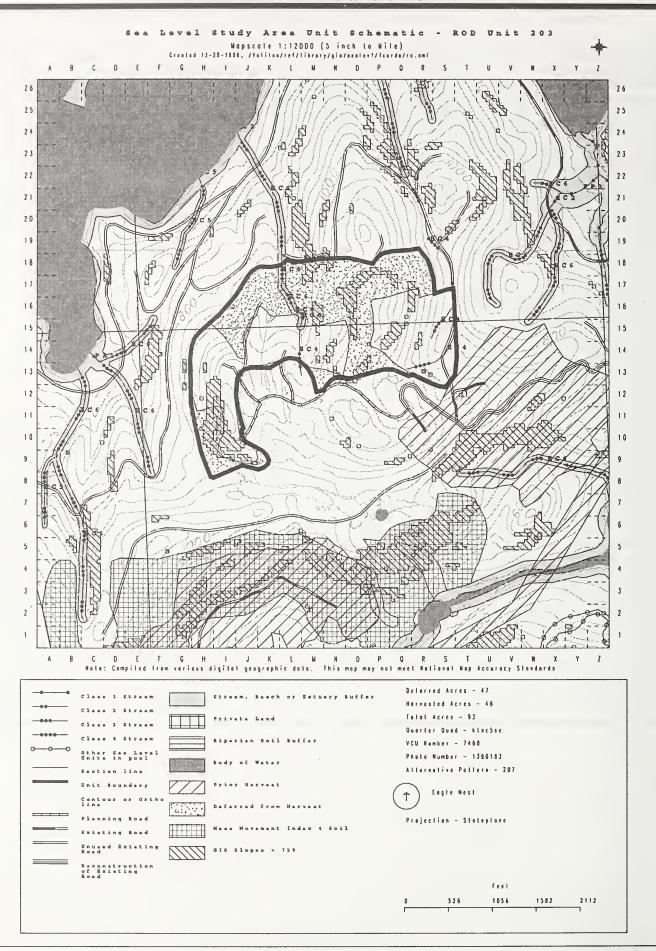
SOILS:

Much of this harvest unit consists of high-landslide potential (MMI=3) soils (BMP 13.5). The upper part of this unit includes areas of forested wetland (BMP 12.5). Use a low-impact logging system on these steep slopes and wetlands which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Road construction on these steep, potentially unstable slopes may require full-bench design (BMP 14.7). Avoid placing fill on high-landslide potential slopes (BMP 14.7). Limit blasting for road construction when the soil is saturated (BMP 14.6). Use overlay road construction on wetlands and minimize side ditching, where practical, to minimize the effects upon groundwater flow (BMP 14.3). This unit contains 12.7 acres of slopes greater than 72 percent. Following an on-site analysis of these slopes by the IDT soil scientist, 9.9 acres of these slopes were determined to have a minimal risk of potential impacts of accelerated erosion on down-slope and down-stream fish habitat, other beneficial uses of water and other resources. These slopes are included within the timber harvest unit (BMP 13.2). The rest of these steep slopes were placed in deferral areas (BMP 13.5).

TIMBER:

The logging systems designed for this unit and shovel, running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	209	Planned Acres:	17.9	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	11.8	Quad:	ktnc5se	VCU Number:	7460
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-21
Number of Settings:	5	Logging System:	R S	Total Esti	mated Harve	est Volume (MBF):	275.7

			PI	IYSICA	L DESCRIPT	TION				
Volume Strata	Low:	2.7	Medium:	11.7	High:	0.1	Noncommercial:	0.0	Primary Aspect:	N
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	0.0
Mass Movement Index	High:	11.8	Very High:	0.0					Slopes Greater Than 72%:	0.8
Wetland Type		Fore	sted Wetland:	14.3		Scr	ub-Shrub Muskeg:	0.2		
Notes: These numbers are acres The data is derived from				e coverag	es may not me	eet Nat	tional Map Accurac	y Stanc	lards.	

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

No concerns

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderate productivity. Two-aged clearcut w/reserves, harvest 12 acres. The stand should regenerate naturally. Harvest deferred on 6 acres for organic wetland concerns. CT 12/16/98

SOILS:

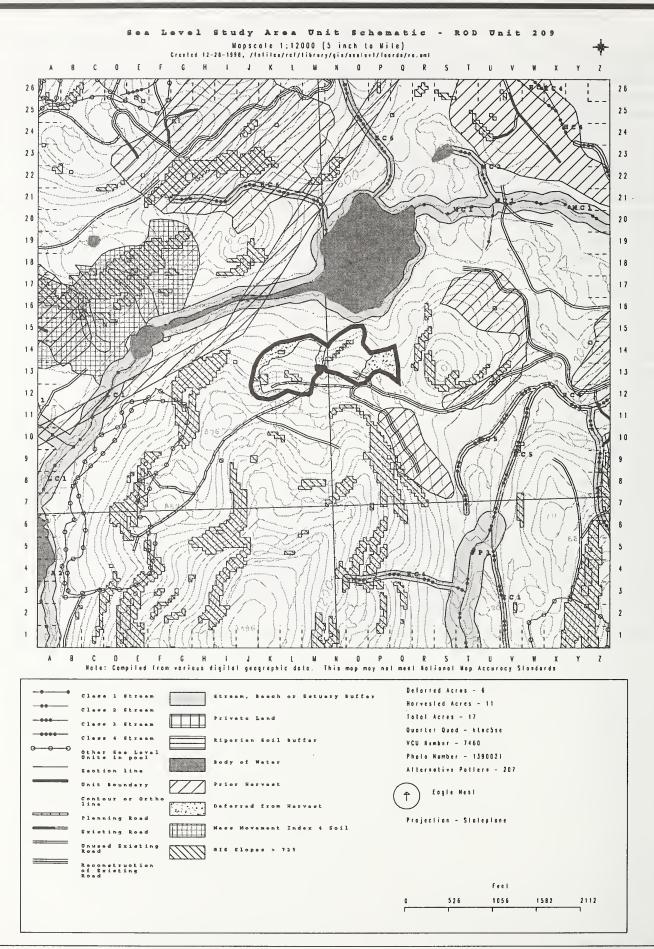
The entire unit is made up of forested wetland and scrub-shrub muskeg (BMP 12.5). Much of this unit also is a high-landslide potential (MMI=3) area (BMP 13.5). Use a low-impact logging system which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9) this unit. Use overlay road construction on wetlands and minimize side-ditching, where practical, to minimize the effects upon groundwater flows (BMP 14.3). Avoid the placement of fill and waste material on these wetlands (BMP 14.19). Access roads have been located to avoid steep, potentially unstable slopes (BMP 14.2). About an acre of this unit consist of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on down-slope and down-stream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:

Sensitive plant SW of unit. Avoid sensitive plant during temporary road construction.



	Unit Data Card - Sea Level Final E18												
Unit Number:	210	Planned Acres:	44.7	Silvicultural Systems:	Even CCR	In Alternatives:	2, 3, 4, 6						
LUD:	TP	Harvest Acres:	36.8	Quad:	ktnc5se	VCU Number:	7460						
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	2730-116						

Total Estimated Harvest Volume (MBF):

1,080.0

RS

Unit Data Cand Coa Land Final FIC

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.1	High:	36.2	Noncommercial:	0.0	Primary Aspect:	W	
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	40.4	
Mass Movement Index	High:	39.9	Very High:	0.0					Slopes Greater Than 72%:	4.9	
Wetland Information		Fore	sted Wetland:	41.4		Scru	b-Shrub Muskeg:	0.1			
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

Number of Settings:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96

Logging System:

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I LC1 west: Greater of 150-foot or RMA (top of sideslope) buffer required.

11

Class I lake southwest: Greater of 100-foot or RMA buffer required. Class I PA2 southwest: Greater of 100-foot or RMA buffer required

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Even-aged clearcut w/reserves, harvest 37 acres. Stand should regenerate naturally. Harvest deferred on 8 acres to meet Marten standards (see wildlife). CT 12/16/98

SOILS:

The entire unit consists of forested wetland and scrub-shrub muskeg (BMP 12.5). Use a low-impact logging system which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9) on wetlands and high-landslide potential slopes. This unit contains 4.9 acres of greater than 72 percent slopes. These slopes were placed in deferal areas. Roads have been located to avoid steep, potentially unstable slopes (BMP 14.2).

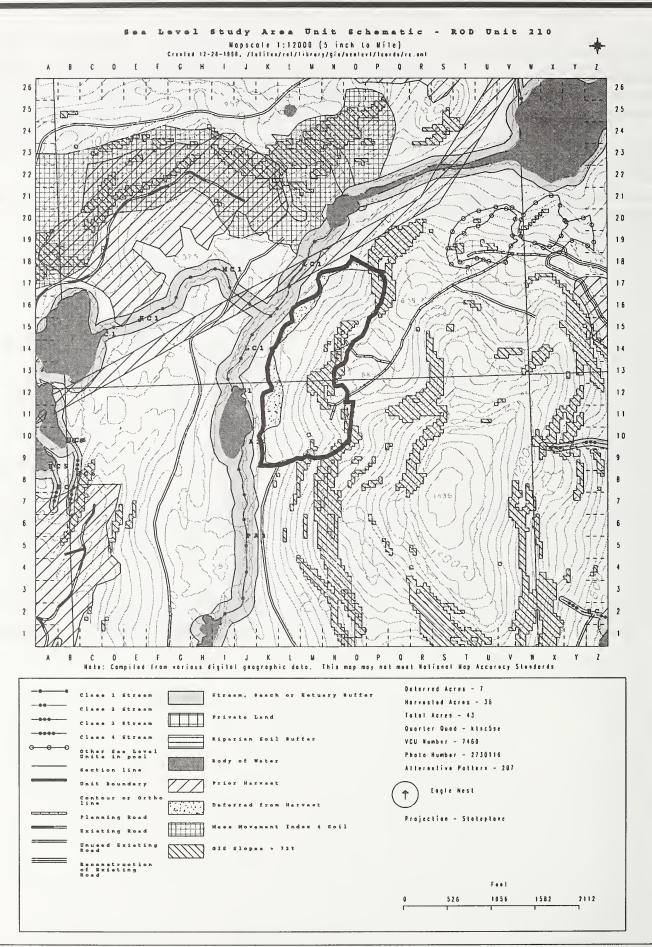
TIMBER

Planned logging systems design for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+).

This stand has sensitive plant concerns. The plants are located along the road leading to the unit. Some slight realignment will be needed; see resource report.



	Unit Data Card - Sea Level ROD											
Unit Number:	215	Planned Acres:	17.4	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7					
LUD:	TP	Harvest Acres:	8.9	Quad:	ktnc5se	VCU Number:	7460					
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-20					
Number of Settings:	2	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	447.6					

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	1.1	High:	16.2	Noncommercial:	0.0	Primary Aspect:	WSW		
Visuals	Seen:	0.0	Not Seen:	15.0				TLMP	High Value Marten Habitat:	16.3		
Mass Movement Index	High:	16.2	Very High:	0.0					Slopes Greater Than 72%:	2.7		
Wetland Type		Scrub-S	hrub Muskeg:	2.0								
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

No concerns.

CEOLOGY.

A high-landslide potential (MMI=3) unit. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Two-aged clearcut w/reserves, harvest 9 acres. Plant 2 acres of Alaska yellow cedar; the remainder of the stand should regenerate naturally. Harvest deferred on 8.5 acres to meet Marten standards (see wildlife). CT 12/16/98

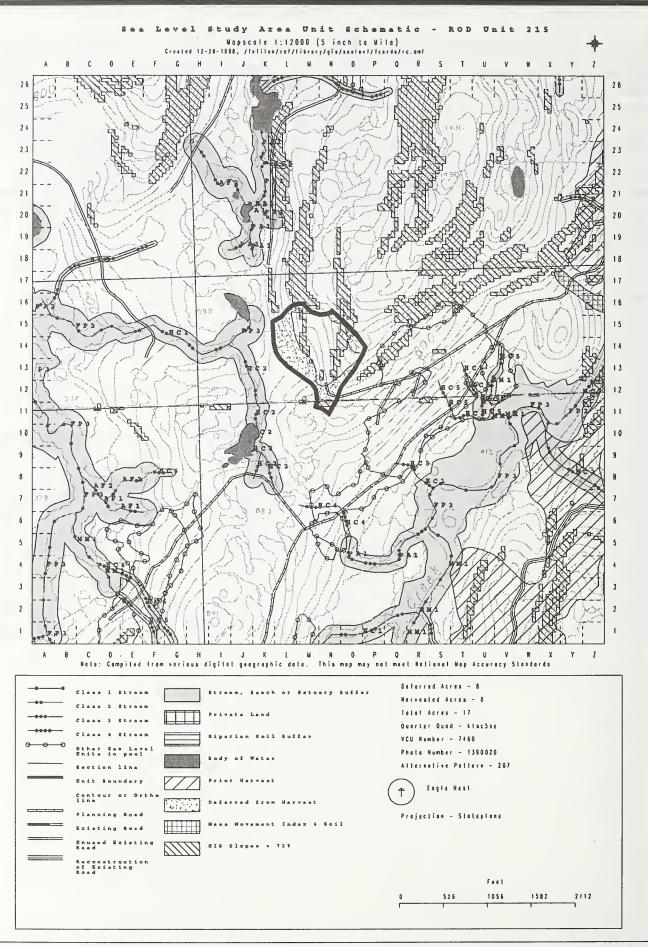
SOILS:

The upper part of this unit consists of high-landslide potential (MMI=3) soils (BMP 13.5). Lower parts of this unit include areas of scrub-shrub muskeg wetland (BMP 12.5). Recommend the use of low-impact logging systems which minimize ground disturbance on these sites and provide at least partial log suspension when yarding (BMP 13.9). Road access to this unit is planned through an area of scrub-shrub muskeg. Use overlay road construction and minimize side ditching, where practical, to minimize the effects upon ground-water flow (BMPs 12.5 and 14.3). This unit contains 2.7 acres of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on down-slope and down-stream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Data Card - Sea Level ROD Planned Acres: 31.2 217 Silvicultural Systems: Even Unit Number: In Alternative: 2.7 **CCR** LUD: ML **Harvest Acres:** 22.2 Ouad: ktnc5se **VCU Number:** 7460 E77A **Primary Watershed Code: Primary WAA Number:** 405 Photo: 1390-20

Total Estimated Harvest Volume (MBF):

656.9

RS, LS

PHYSICAL DESCRIPTION											
Volume Strata	Low:	2.7	Medium:	14.3	High:	8.8	Noncommercial:	0.0	Primary Aspect:	Е	
Visuals	Seen:	22.2						TLMP	High Value Marten Habitat	10.0	
Mass Movement Index	High:	3.0	Very High:	0.0					Slopes Greater Than 72%:	1.6	
Wetland Type		For	ested Wetland:	0.9							
Notes: These numbers are acres unless otherwise specified.											
The data is derived from	The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

Number of Settings:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

Logging Systems:

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I PA1 northwest: Greater of 100-foot or RMA buffer to form unit boundary.

4

Class II HC3 (direct) west: Greater of 100-foot buffer or RMA (top of V-notch) to form unit boundary.

Class II HC2 (direct) west: Greater of 100-foot buffer or RMA (top of V-notch) to form unit boundary.

GEOLOGY:

High landslide potential area. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Partial Retention VOO for 12.7 foreground acres and the Modification VOO for 9.4 middleground acres.

SILVICULTURE:

Moderately low productivity. Even-aged clearcut w/reserves, harvest 22 acres. Stand should regenerate naturally. Harvest deferred on 9 acre. CT 10/22/97

SOILS:

A small area (3 acres) of high-landslide potential slopes (MMI=3) is located in the south end of this unit (BMP 13.5). Forested wetlands are found along the margins of this unit (BMP 12.5). Use a low-impact logging system on these sites which minimizes ground disturbance and provides at least partial log suspension when yarding (BMP 13.9). Roads have been located in this unit to avoid wetlands and areas of steep, potentially unstable slopes (BMP 14.2). About 1.6 acres of this unit consist of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on down-slope and down-stream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER:

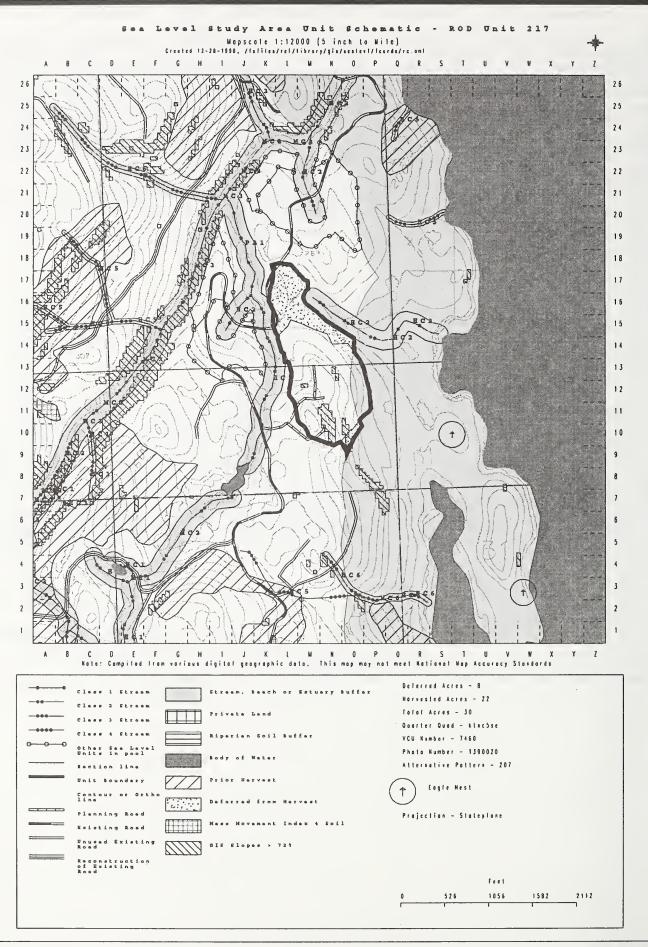
The logging systems designed for this unit are running skyline and live skyline. Confirm final road and landing locations.

WILDLIFE

Maintain 1000-foot beach buffer.

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+).

Unit is within 0.5 miles of a bald eagle nest. Follow Interagency Agreement. Blasting prohibited within 0.5 mile of nest March 1 through May 31. If nest is determined active, blasting prohibited within 0.5 mile of nest June 1 through August 31.



Unit Number:	219	Planned Acres:	54.3	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	37.7	Quad:	ktnc5se	VCU Number:	7460
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-20
Number of Settings:	12	Logging System:	RS	Total Esti	mated Harve	est Volume (MBF):	1,169.4

			Pł	IYSICAI	L DESCRIP	TION				
Volume Strata	Low:	9.0	Medium:	14.8	High:	25.2	Noncommercial:	0.0	Primary Aspect:	Е
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	24.0
Mass Movement Index	High:	34.0	Very High:	0.0					Slopes Greater Than 72%:	2.0
Wetland Type		Sphagi	num Peat Bog:	3.0						
Notes: These numbers are acres unless otherwise specified.										
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.										

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns

FISH/WATERSHED:

Class I FP3, Gunsight Creek, east: Greater of 250-foot or floodplain RMA buffer required.

Class III HC5, MM1 northeast to southwest: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class IV HC5 east to south (2 each): Fall trees away from streamcourse, split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 center to east: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class II (direct) HC2, MM1 south center to Gunsight Creek: Greater of 100-foot or RMA (top of V-notch) buffer required.

Class I MMI southeast MMI near confluence of all streams and Gunsight Creek: Greater of 120-foot or RMA buffer required.

Class IV HC4 southwest: Fall trees away from streamcourse, split yard or full suspension required (BMP 13.16 and CT6.51b).

Class IV HC5 east to south (2 each): Fall trees away from streamcourse split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III PA1 southwest to Gunsight Creek: 25-foot buffer.

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SH VICHI TURE.

Moderately low productivity. Even-aged clearcut w/reserves, harvest 38 acres. Plant 3 acres with Alaska yellow cedar. The remainder of the stand should regenerate naturally. Harvest deferred on 17 acres to meet Marten standards (see wildlife). CT 12/16/98

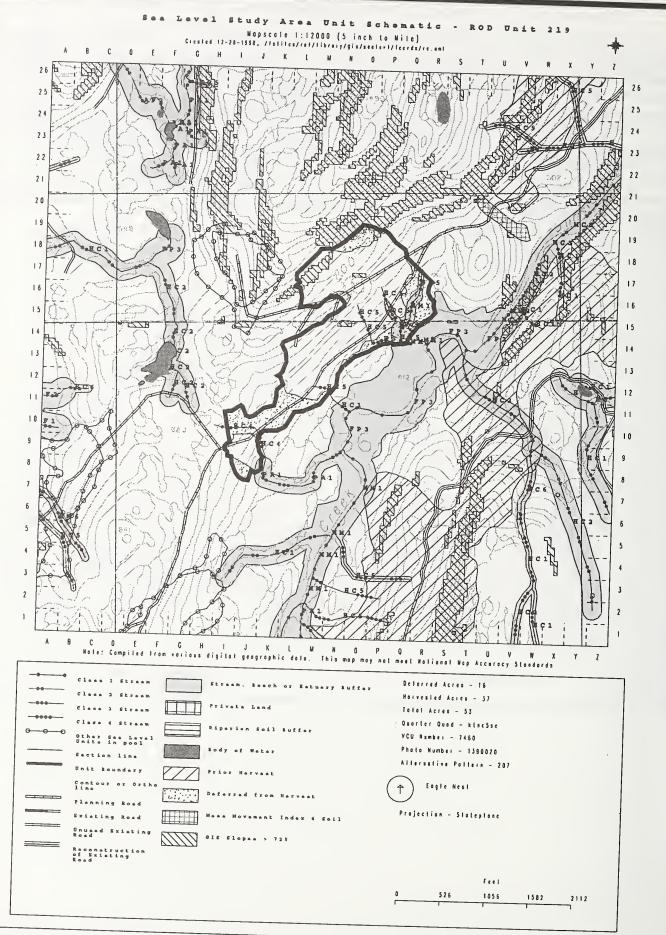
SOILS:

The Sphagnum peat bog located in this unit has been placed in the deferral area (BMP 12.5). Unit contains high-landslide potential areas (BMP 13.5). Some of these areas have been deferred from timber harvest (BMP 13.5). Recommend the use of a low-impact logging system on these slopes (BMP 13.9). Reads have been located to avoid these steep, potentially unstable slopes (BMP 14.2). This unit contains 2.0 acres of slopes greater than 72 percent. These slopes were included in the deferral areas.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIEF



Unit Number:	220	Planned Acres:	29.6	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	14.4	Quad:	ktnb5ne	VCU Number:	7460
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-20
Number of Settings:	4	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	606.2

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	3.4	Medium:	25.2	High:	0.0	Noncommercial:	0.0	Primary Aspect:	W			
Visuals	Seen:	0.0	Not Seen:	20.9				TLMP	High Value Marten Habitat	0.0			
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	1.5			
Wetland Type		Short Se	edge Meadow:	0.3			Forested Wetland:	28.3					
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC5 unlabeled stream, northeast: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class II (direct) AF1 north: Greater of 140-foot or alluvial fan RMA buffer required.

Class I (adfluvial) MMI north: Greater of 120-foot or alluvial fan RMA buffer required.

Class III HC6 (2 each) center: Sideslope Standard & Guideline buffer (top of V-notch), split yard or full suspension required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderate productivity. Two-aged clearcut w/reserves, harvest 14 acres. Plant 2 acres with Alaska yellow cedar. The remainder of the stand should regenerate naturally. Harvest deferred on 15 acres for organic wetland concerns. CT 12/16/98

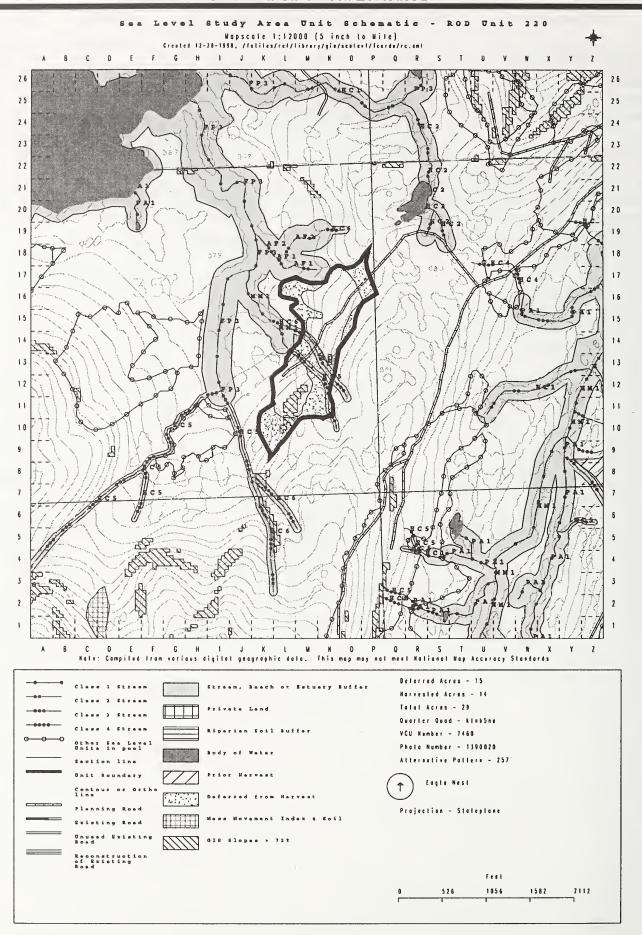
SOILS

The entire unit is composed of forested wetlands and a small area of nonforested short sedge meadow (BMP 12.5). Use a low-impact logging system which minimizes ground disturbance and provides at least partial log suspension when yarding on these wetlands (BMP 13.9). About 1.5 acres of this unit consist of slopes greater than 72 percent. These slopes were placed in a deferral area.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE



Unit Number:	224	Planned Acres:	63.5	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	44.5	Quad:	ktnb5ne	VCU Number:	7460
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-19
Number of Settings:	10	Logging Systems:	RS, SL	Total Esti	imated Harve	est Volume (MBF):	1,281.6

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	38.2	Medium:	19.4	High:	0.0	Noncommercial:	0.0	Primary Aspect:	Е				
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat:	0.0				
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	1.8				
Wetland Type		Short Se	edge Meadow:	4.5			Forested Wetland:	8.6	Scrub-Shrub Muskeg:	10.0				
	Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class IV HC5 east (3 each): Split yard or partial suspension required (BMP 13.16 and CT6.51c).

Class III HC5 east (2 each): Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class IV PA1 east (2 each): 100-foot Standard & Guideline palustrine buffer. Class II HC1 north. Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Even-aged clearcut w/reserves, harvest 44.5 acres. Stand should regenerate naturally. Harvest deferred on 19 acres for organic wetland concerns. CT 12/16/98

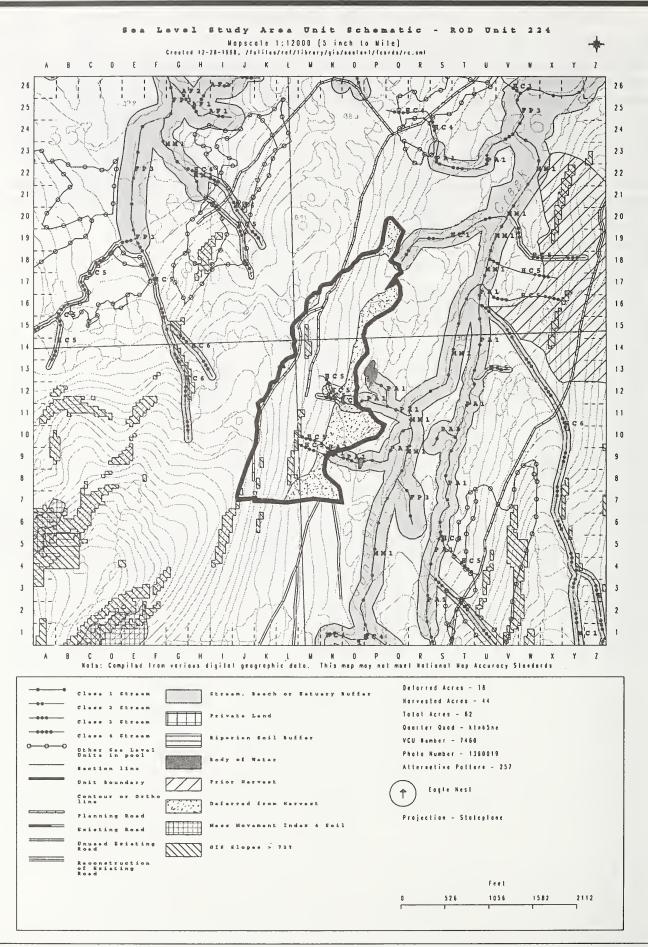
SOILS:

The upper part of this unit is made up of scrub-shrub-muskeg wetlands. The southeast comer of the unit includes 8.6 acres of forested wetlands. Areas of short-sedge-meadow wetlands are located along the eastern unit boundary (BMP 12.5). Use a low-impact logging system when logging forested wetlands (BMP 13.9). Roads are located in this unit to avoid wetlands, where possible (BMP 14.2). Use overlay-road construction when crossing wetlands, and minimize side-ditching, where practical, to minimize the effects upon ground-water flows (BMP 14.3). About 2 acres of this unit consist of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on down-slope and down-stream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging systems designed for this unit are running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:



		_	Omt Dat	a Cai	u - Sea Level Ro				
	Unit Number:	226	Planned Acres:	38.3	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7	
╟	LUD:	TP	Harvest Acres:	31.5	Quad:	ktnb5ne	VCU Number:	7460	
I	Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-18	

Total Estimated Harvest Volume (MBF):

937.4

RS

Unit Data Card - Sea Lavel POD

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	38.2	High:	0.0	Noncommercial:	0.0	Primary Aspect:	W				
Visuals	Seen:	0.0						TLMP H	igh Value Marten Habitat:	0.0				
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	4.5				
Wetland Type		Scrub-S	hrub Muskeg:	0.3										
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.														

CULTURAL RESOURCES:

Number of Settings:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I PA1 west: 100-foot Standard & Guideline palustrine buffer required.

10

Class IV HC5 center to east: Sideslope Standard & Guideline buffer (top of V-notch), split yard or full suspension required.

Logging System:

Class III HC5 south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III HC5 south: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required.

Class III HC6 east: Sideslope Standard & Guideline buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately low productivity. Even-aged clearcut w/reserves, harvest 31 acres. Stand should regenerate naturally. Harvest deferred on 7 acres for stream protection and organic wetland concerns. CT 12/16/98

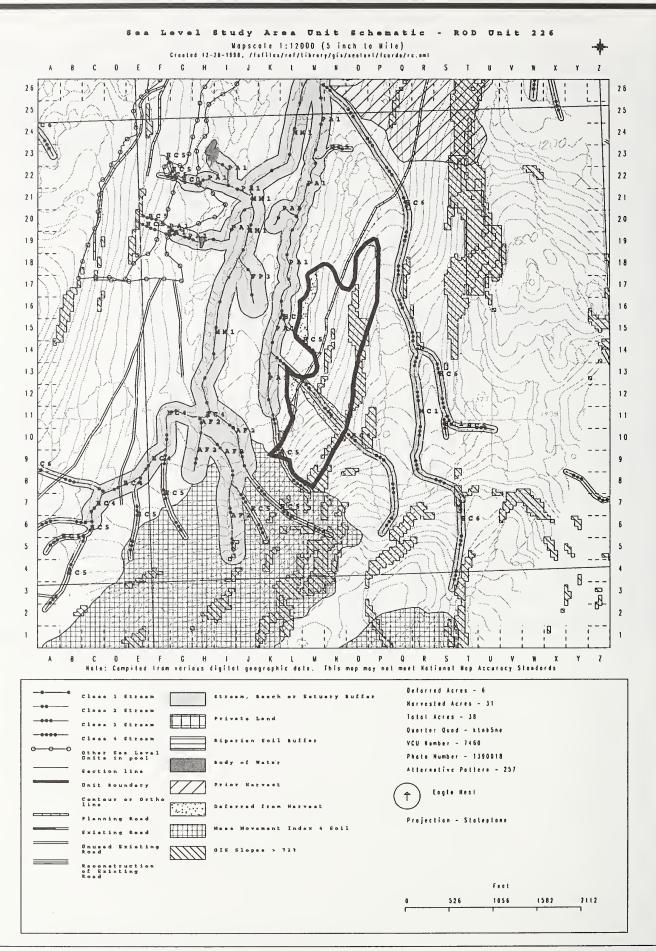
SOILS

A small area of scrub-shrub muskeg has been deferred from timber harvest (BMP 12.5). About 4.5 acres of this unit consist of slopes greater than 72 percent. An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on down-slope and down-stream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	227	Planned Acres:	33.9	Silvicultural Systems:	CC, DEF	In Alternative:	2, 7
LUD:	ML	Harvest Acres:	31.3	Quad:	ktnb5ne	VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-16
Number of Settings:	5	Logging Systems:	RS, HE	Total Esti	mated Harv	est Volume (MBF):	777.0

	PHYSICAL DESCRIPTION													
Volume Strata	Low:	0.0	Medium:	33.9	High:	0.0	Noncommercial:	0.0	Primary Aspect:	S				
Visuals	Seen:	31.3						TLMP H	igh Value Marten Habitat:	0.0				
Mass Movement Index	High:	33.9	Very High:	0.0					Slopes Greater Than 72%:	1.3				
Wetland Type		For	ested Wetland:	17.9										
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Man Accuracy Standards.														
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.														

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class III HC6 center: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required. Class IV PA1 east: Sideslope Standard & Guideline or RMA (top of V-notch) buffer required. Class II Mislabeled on map MC1: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 31.3 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut with deferral, harvest 31 acres. Plant 2 acres with Alaska yellow cedar. The remainder of the stand should regenerate naturally. Harvest deferred on 3 acres for wildlife concerns. CT 12/16/98

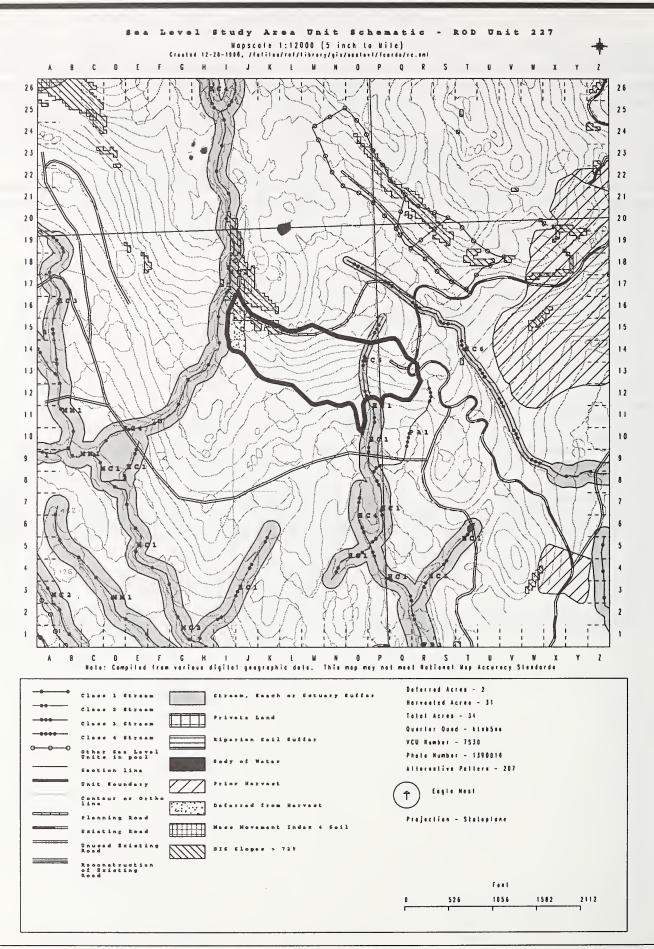
SOILS:

This unit consists entirely of high-landslide potential (MMI=3) soils (BMP 13.5). The central part of this unit also includes about 18 acres of forested wetlands (BMP 12.5). Use a low-impact logging system which minimizes ground surface disturbance and provides at least partial log suspension when yarding (BMP 13.9). Access roads have been located to avoid these steep, potentially unstable slopes (BMPs 14.2 and 14.7). About an acre of this unit consist of slopes greater than 72 percent and was placed in a deferral area. During unit layout, field check the status of the forested wetland soils for Kaikli, Maybeso, Kitkun or Karheen soil types.

TIMBER:

The logging systems designed for this unit are running skyline and helicopter. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	228	Planned Acres:	27.1	Silvicultural Systems:	2 age CCR	In Alternative:	2, 7
LUD:	ML	Harvest Acres:	23.1	Quad:	ktnb5ne	VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-16
Number of Settings:	5	Logging Systems:	RS, LS	Total Esti	mated Harve	st Volume (MBF):	661.2

	PHYSICAL DESCRIPTION												
Volume Strata	Low:	0.0	Medium:	6.2	High:	20.9	Noncommercial:	0.0	Primary Aspect:	S			
Visuals	Seen:	14.5						TLMP	High Value Marten Habitat:	21.0			
Mass Movement Index	High:	27.1	Very High:	0.0					Slopes Greater Than 72%:	4.4			
Wetland Type		Fore	sted Wetland:	13.1		Scr	ub-Shrub Muskeg:	3.0					
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.													

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

No concerns

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 14.5 middleground acres.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 23.1 acres. Stand should regenerate naturally. Harvest deferred on 4 acres to meet Marten standards (see wildlife). CT 10/22/97

SOILS:

This unit consists entirely of high-landslide-potential (MMI=3) soils (BMP 13.5). The lower part of this unit also includes about 13 acres of forested wetlands (BMP 12.5). Use a low-impact-logging system which minimizes ground-surface disturbance and provides at least partial log suspension when yarding (BMP 13.9). Access roads have been located to avoid these steep, potentially unstable slopes (BMPs 14.2 and 14.7) and wetlands. This unit contains about 4.4 acres of slopes greater than 72 percent. There are 1.2 acres of these steep slopes placed in deferral areas (BMP 13.5). An on-site analysis of these slopes by the IDT soil scientist determined that the risk of potential impacts of accelerated erosion on downslope and downstream fish habitat, other beneficial uses of water and other resources was minimal and these slopes are included within the timber harvest unit (BMP 13.2).

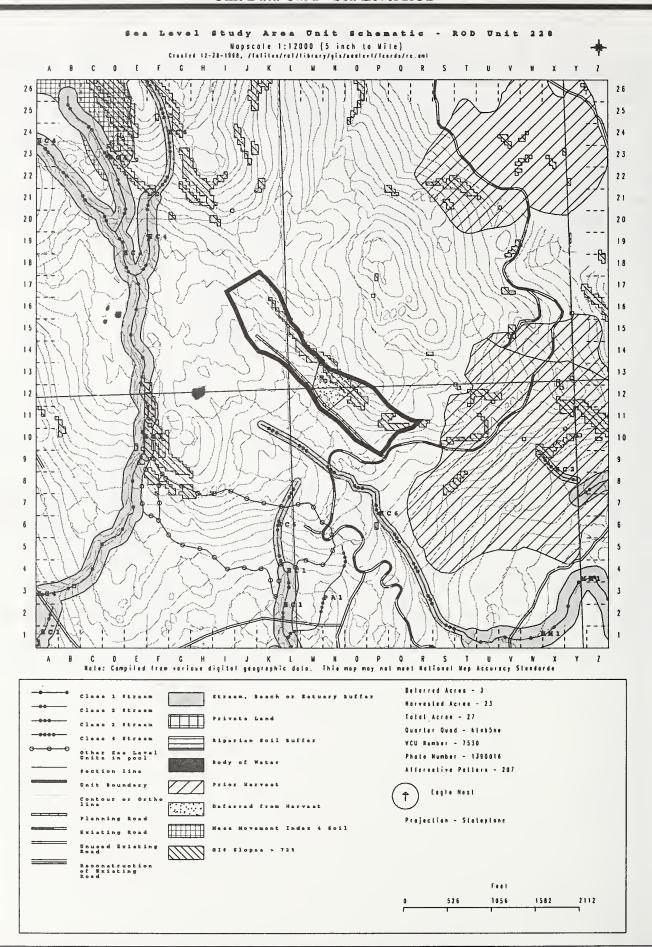
TIMBER:

The logging systems designed for this unit are running skyline and live skyline. Confirm final road and landing locations.

WILDLIFE

Marten guidelines apply: maintain 10-20 percent of canopy, average 4 large trees per acre (20-30"+), average 3 snags per acre, and average 3 pieces downed logs per acre (20-30"+).

This stand has Sensitive Plant concerns, specifically Listera convallarioides. Plants are located with a deferred area; see resource report.



	Unit Data Card - Sea Level ROD												
Unit Number:	230	Planned Acres:	58.0	Silvicultural Systems:	Even CCR	In Alternatives:	5, 7						
LUD:	TP	Harvest Acres:	44.9	Quad:	ktnb5ne	VCU Number:	7530						
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-15						
Number of Settings:	12	Logging Systems:	RS, SH	Total Esti	mated Harv	est Volume (MBF):	1,216.9						

PHYSICAL DESCRIPTION												
Volume Strata	Low:	7.0	Medium:	28.2	High:	22.8	Noncommercial:	0.0	Primary Aspect:	Е		
Visuals	Seen:	17.9						TLMP	High Value Marten Habitat:	23.5		
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0		
Wetland Type		Fore	sted Wetland:	39.9		Scr	ub-Shrub Muskeg:	5.8				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.												

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I FP3 east: Greater of 130-foot or floodplain RMA buffer required.

Class II (direct) HC2 north: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Maximum Modification VQO for 17.9 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 45 acres. Stand should regenerate naturally. Harvest deferred on 13 acres to meet Marten standards (see wildlife). CT 12/16/98

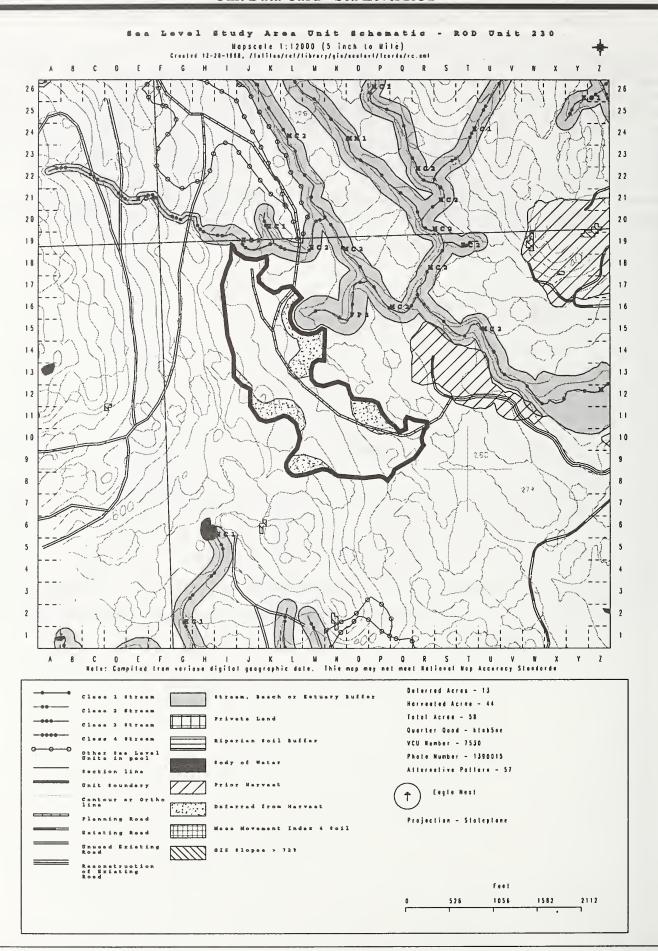
SOILS:

The southern two-thirds of this unit consists of forested wetlands (BMP 12.5). Use a low-impact-logging system on these wetlands to minimize ground-surface disturbance and provide at least partial log suspension when yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flows (BMPs 12.5 and 14.3).

TIMBER:

The logging systems designed for this unit are running skyline and shovel. Confirm final road and landing locations.

WILDLIFE



Clift Data Card - Sea Level ROD										
Unit Number:	231	Planned Acres:	35.5	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7			
LUD:	ML	Harvest Acres:	23.7	Quad:	ktnb5ne	VCU Number:	7530			
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-16			
Number of Settings:	7	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	700.6			

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	4.8	High:	30.6	Noncommercial:	0.1	Primary Aspect:	Е	
Visuals	Seen:	19.4						TLMP	High Value Marten Habitat:	30.5	
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0	
Wetland Type		Fore	ested Wetland:	23.6		Scr	ub-Shrub Muskeg:	1.2			
Notes: These numbers are acres unless otherwise specified.											
The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MC2 east: Greater of 120-foot or RMA (top of V-notch) buffer required.

Class II (direct) HC2 south: Greater of 100-foot or RMA (top of V-notch) buffer required. Class II (direct) HC2 north: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY: No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 19.4 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 24 acres. Stand should regenerate naturally. Harvest deferred on 11.5 acres to meet Marten standards (see wildlife). CT 12/16/98

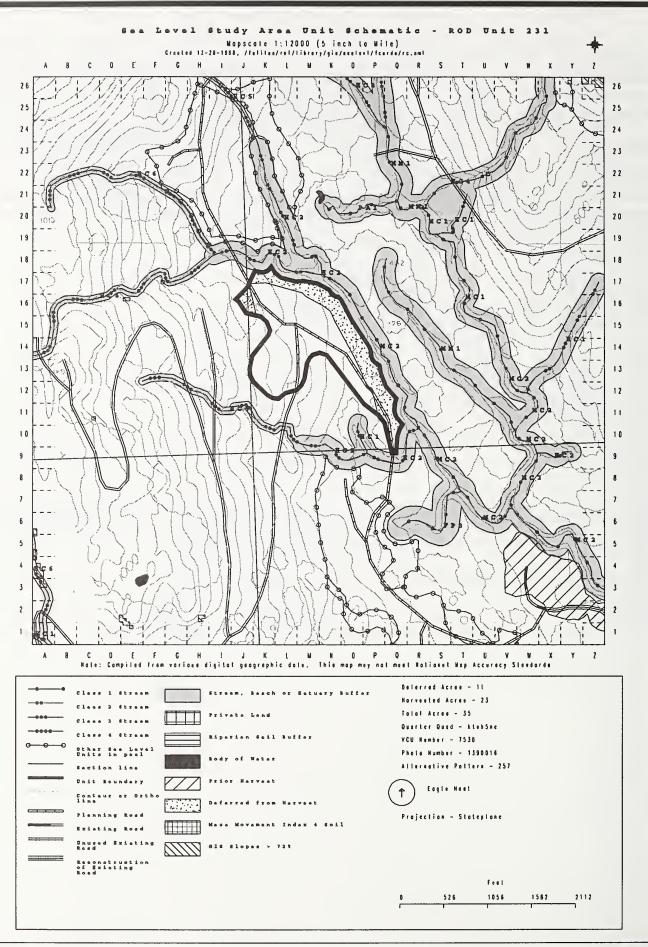
SOILS:

The southern part of this unit is made up of forested wetlands and some scrub-shrub-muskeg wetland (BMP 12.5). Use a low-impact-logging system which provides at least partial-log suspension when yarding (BMP 13.9). Much of this unit would be suitable for shovel yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5 and 14.3). During unit layout, field check the status of the forested wetland soils for Kaikli, Maybeso, Kitkun or Karheen soil types.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE



	Unit Data Card - Sea Level ROD											
Unit Number:	232	Planned Acres:	46.6	Silvicultural Systems:	Even CCR	In Alternatives:	2, 5, 7					
LUD:	ML	Harvest Acres:	32.8	Quad:	ktnb5ne	VCU Number:	7530					
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-16					
Number of Settings:	6	Logging Systems:	RS, SL	Total Esti	mated Harv	est Volume (MBF):	1,059.0					

			PI	IYSICAI	L DESCRIP	TION				
Volume Strata	Low:	0.0	Medium:	2.9	High:	43.8	Noncommercial:	0.0	Primary Aspect:	Е
Visuals	Seen:	32.8						TLMP H	igh Value Marten Habitat:	42.1
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0
Wetland Type		Fore	ested Wetland:	10.8						
	Notes: These numbers are acres unless otherwise specified.									
The data is derived fro	m digital g	еодгарһі	c data and so the	coverag	es may not n	neet Nat	tional Map Accura	cy Standa	rds.	

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) HC2 east: Greater of 100-foot or RMA (top of V-notch) buffer required. Class II (direct) HC2 south: Greater of 100-foot or RMA (top of V-notch) buffer required. Class II HC2 west: Sideslope Standard & Guideline buffer to form unit south boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 32.8 middleground acres.

SILVICULTURE:

Highly productive. Even-aged clearcut w/reserves, harvest 33 acres. Stand should regenerate naturally. Harvest deferred on 14 acres to meet Marten standards (see wildlife). CT 12/16/98

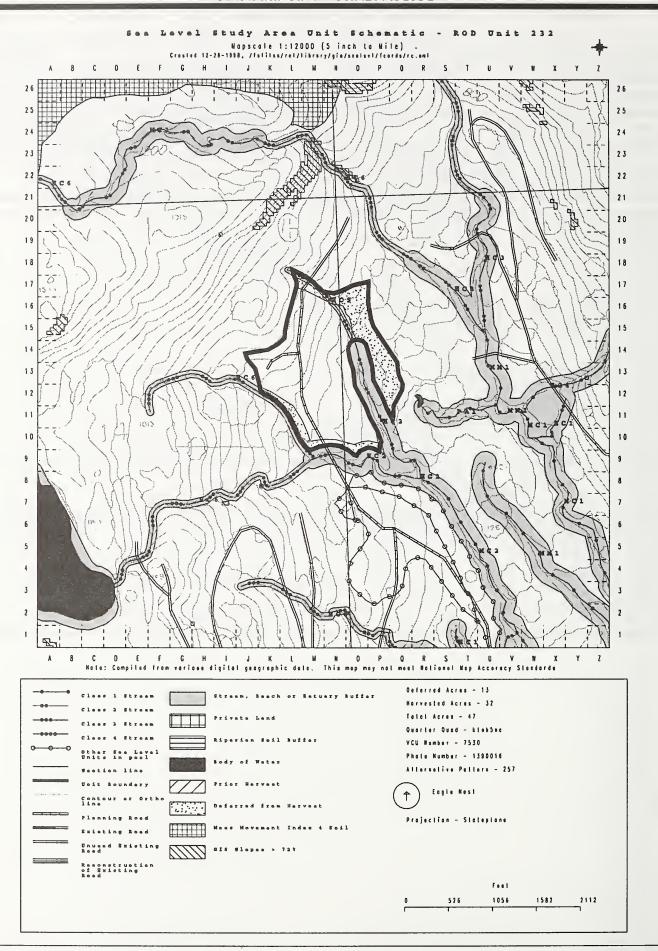
SOILS:

The southern part of this unit contains about 11 acres of forested wetlands (BMP 12.5). Use a low-impact-logging system which provides at least partial log suspension when yarding (BMP 13.9). Much of this unit would be suitable for shovel yarding (BMP 13.9). Use overlay-road construction and minimize side ditching, where practical, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5 and 14.3). During unit layout, field check the status of the forested wetland soils for Kaikli, Maybeso, Kitkun or Karheen soil types.

TIMBER:

The logging systems designed for this unit are running skyline and slackline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	234	Planned Acres:	28.5	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	19.8	Quad:	ktnb5ne	VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-14
Number of Settings:	3	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	536.8

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	16.6	High:	12.0	Noncommercial:	0.0	Primary Aspect:	S	
Visuals	Seen:	0.0						TLMP	High Value Marten Habitat	11.0	
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.1	
Wetland Type		Fore	sted Wetland:	25.1		Scr	ub-Shrub Muskeg:	1.6			
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95, Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MM1 south: Greater of 120-foot or RMA buffer to form unit boundary.

Class II (direct) HC2 west: Greater of 100-foot or RMA (top of V-notch) buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 20 acres. Stand should regenerate naturally. Harvest deferred on 8.5 acres to meet Marten standards (see wildlife). CT 12/16/98

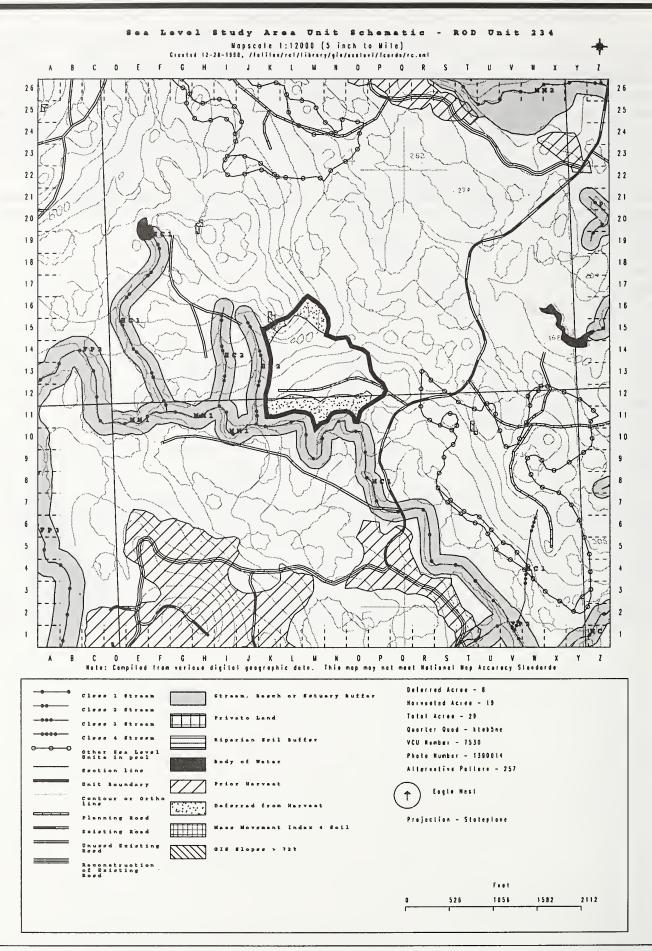
SOILS:

Most of this unit consists of forested wetland (BMP 12.5). Recommend the use of low-impact-logging systems which minimize ground disturbance and provide partial log suspension when yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5, 14.3). During unit layout, field check the status of the forested wetland soils for Kaikli, Maybeso, Kitkun or Karheen soil types. A small area (0.1 acres) of slopes >72 percent are included in the unit and cannot be avoided. This area will not be deferred.

TIMBER

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE



Unit Number:	235	Planned Acres:	17.3	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 5, 7
LUD:	ML	Harvest Acres:	9.6	Quad:	ktnb5ne	VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-14
Number of Settings:	7	Logging System:	RS	Total Esti	mated Harve	est Volume (MBF):	336.0

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	6.9	High:	8.3	Noncommercial:	0.0	Primary Aspect:	Е	
Visuals	Seen:	0.0					7	ILMP	High Value Marten Habitat:	8.5	
Mass Movement Index	Low:	15.2	Medium:	0.0	High:	0.0	Very High:	0.0	Slopes Greater Than 72%:	0.0	
Wetland Type		Fore	sted Wetland:	12.5							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns for cultural resources. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I FP3 east: Greater of 130-foot or floodplain RMA buffer required.

Class II (direct) HC4 north: Greater of 100-foot or RMA (top of V-notch) buffer required. Class II (direct) HC1 south: Greater of 100-foot or RMA (top of V-notch) buffer required.

GEOLOGY:

No concerns.

LANDS:

No concems.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 10 acres. Stand should regenerate naturally. Harvest deferred on 7 acres to meet Marten standards (see wildlife). CT 12/16/98

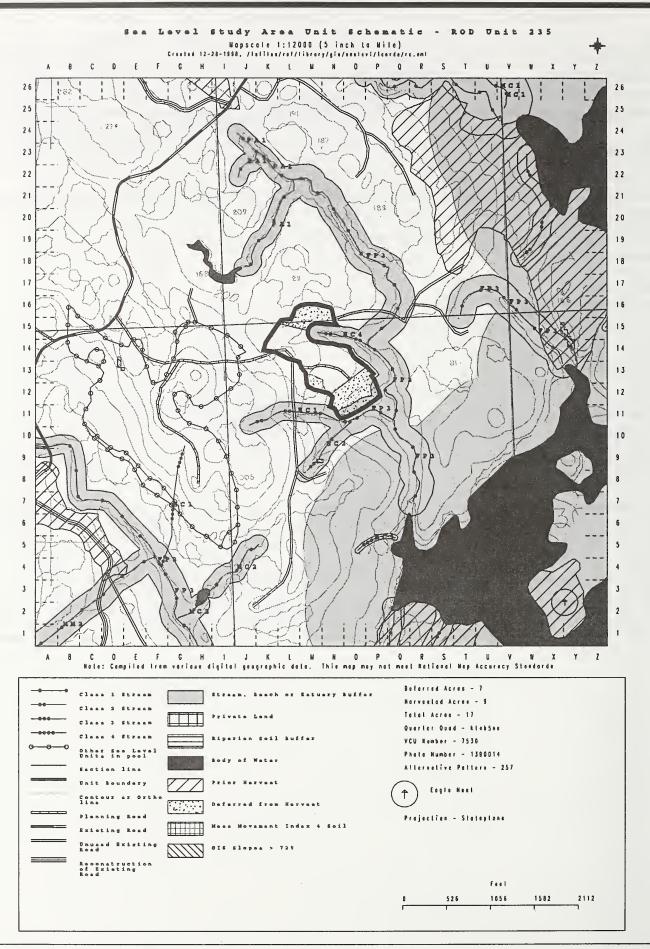
SOILS

Most of this unit consists of forested wetland (BMP 12.5). Recommend the use of low-impact-logging systems which minimize ground disturbance and provide partial log suspension when yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5, 14.3). During unit layout, field check the status of the forested wetland soils for Kaikli, Maybeso, Kitkun or Karheen soil types.

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIFE



Unit Number:	236	Planned Acres:	63.5	Silvicultural Systems:	CC, DEF	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	59.6	Quad:	ktnb5ne	VCU Number:	7530
Primary Watershed Code:	E77A	Primary WAA Number:	405			Photo:	1390-15
Number of Settings:	8	Logging System:	RS	Total Esti	mated Harv	est Volume (MBF):	1,479.3

PHYSICAL DESCRIPTION											
Low:	0.2	Medium:	63.3	High:	0.0	Noncommercial:	0.0	Primary Aspect:	SSE		
Seen:	0.0						TLMP	High Value Marten Habitat:	0.0		
High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.1		
	Fore	ested Wetland:	35.5		Scr	ub-Shrub Muskeg:	9.6				
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Man Accuracy Standards.											
	Seen: High: unless othe	Seen: 0.0 High: 0.0 Fore	Low: 0.2 Medium: Seen: 0.0 High: 0.0 Very High: Forested Wetland: unless otherwise specified.	Low: 0.2 Medium: 63.3 Seen: 0.0 High: 0.0 Very High: 0.0 Forested Wetland: 35.5 unless otherwise specified.	Low: 0.2 Medium: 63.3 High: Seen: 0.0 High: 0.0 Very High: 0.0 Forested Wetland: 35.5 unless otherwise specified.	Low: 0.2 Medium: 63.3 High: 0.0 Seen: 0.0 Usery High: 0.0	Low: 0.2 Medium: 63.3 High: 0.0 Noncommercial: Seen: 0.0 High: 0.0 Very High: 0.0 Forested Wetland: 35.5 Scrub-Shrub Muskeg: unless otherwise specified.	Low: 0.2 Medium: 63.3 High: 0.0 Noncommercial: 0.0 Seen: 0.0 TLMP High: 0.0 Very High: 0.0 Forested Wetland: 35.5 Scrub-Shrub Muskeg: 9.6 unless otherwise specified.	Low:0.2Medium:63.3High:0.0Noncommercial:0.0Primary Aspect:Seen:0.0TLMP High Value Marten Habitat:High:0.0Very High:0.0Slopes Greater Than 72%:Forested Wetland:35.5Scrub-Shrub Muskeg:9.6		

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

No concerns.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Even-aged clearcut with deferral, harvest 60 acres. Stand should regenerate naturally. Harvest deferred on 4 acres for organic wetland concerns. CT 12/16/98

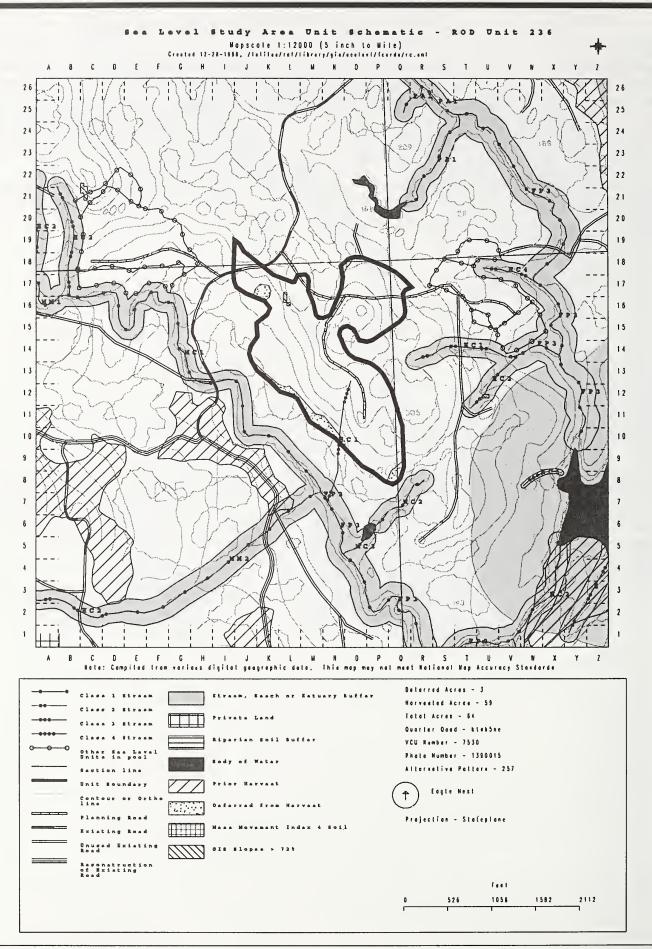
SOILS:

Much of this unit consists of forested wetland (BMP 12.5). Recommend the use of low-impact-logging systems which minimize ground disturbance and provide partial log suspension when yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flow and alteration of wetness (BMPs 12.5, 14.3). During unit layout, field check the status of the forested wetland soils for Kaikli, Maybeso, Kitkun or Karheen soil types. A small area (0.1 acres) of slopes >72 percent are included in the unit and cannot be avoided. This area will not be deferred.

TIMBER

The logging system designed for this unit is running skyline. Confirm final road and landing locations.

WILDLIEF.



Unit Number:	243	Planned Acres:	15.3	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	ML	Harvest Acres:	12.3	Quad:	KTNC4SW	VCU Number:	7460
Primary Watershed Code:	115A	Primary WAA Number:	405			Photo:	1390-88
Number of Settings:	2	Logging System:	RS	Total Est	imated Harves	t Volume (MBF):	528.4

	PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.7	High:	13.4	Noncommercial:	0.1	Primary Aspect:	S		
Visuals	Seen:	9.6						TLMP	High Value Marten Habitat	13.2		
Mass Movement Index	High:	0.9	Very High:	0.0					Slopes Greater Than 72%:	0.9		
Wetland Type			None									
	Notes: These numbers are acres unless otherwise specified.											
The data is derived from	The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (direct) HC2 east: Greater of 100-foot or RMA (top of V-notch) buffer required. Class III HC6 center: Sideslope Standard & Guideline buffer (top of V-notch) required.

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

As proposed, this unit would meet the Modification VQO for 9.6 middleground acres.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 12 acres. Stand should regenerate naturally. Harvest deferred on 3 acres to meet Marten standards (see wildlife). CT 12/16/98

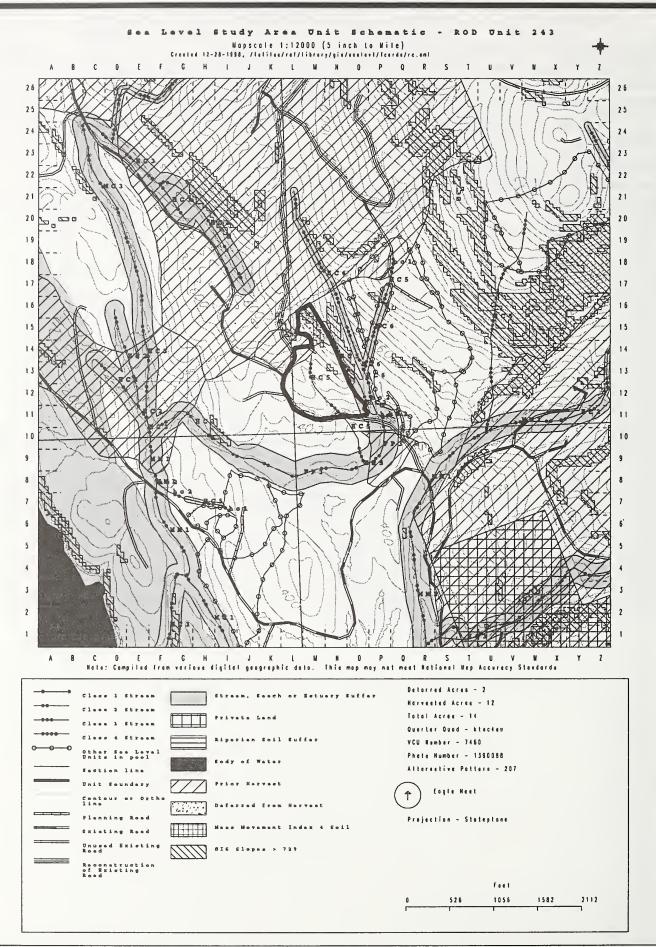
SOILS:

A small area of high-landslide-potential soil (MMI=3) is located in the north end of this unit (BMP 13.5). Recommend the use of a low-impact-logging system on these steep slopes to minimize ground disturbance and provide at least partial log suspension when yarding (BMP 13.9). Roads have been located to avoid steep, potentially unstable slopes (BMP 14.2). About an acre of this unit consist of slopes greater than 72 percent. This slope was placed in a deferral area.

TIMBER

The logging systems designed for this unit are running skyline and live skyline. Confirm final road and landing locations.

WILDLIFE:



Unit Number:	246	Planned Acres:	35.6	Silvicultural Systems:	Even CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	21.4	Quad:	KTNB4SW	VCU Number:	7550
Primary Watershed Code:	E79A	Primary WAA Number:	405			Photo:	1390-160
Number of Settings:	3	Logging System:	RS	Total Esti	mated Harves	t Volume (MBF):	549

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.3	Medium:	9.2	High:	25.0	Noncommercial:	0.0	Primary Aspect:	Е	
Visuals Seen: 0.0 TLMP High Value Marten Habit:								High Value Marten Habitat:	17.0		
Mass Movement Index	High:	0.5	Very High:	0.0					Slopes Greater Than 72%:	0.0	
Wetland Type		Fore	ested Wetland:	22.2			Tall Sedge Fen:	0.3			
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I MMI east: Greater of 120-foot or RMA buffer to form unit boundary.

Class II (direct) PA1 west: Greater of 100-foot or RMA buffer to form unit boundary.

GEOLOGY:

High landslide potential. See Soils for mitigation measures.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICIII THRE.

Highly productive. Even-aged clearcut w/reserves, harvest 21 acres. Stand should regenerate naturally. Harvest deferred on 14 acres to meet Marten standards (see wildlife). CT 12/16/98

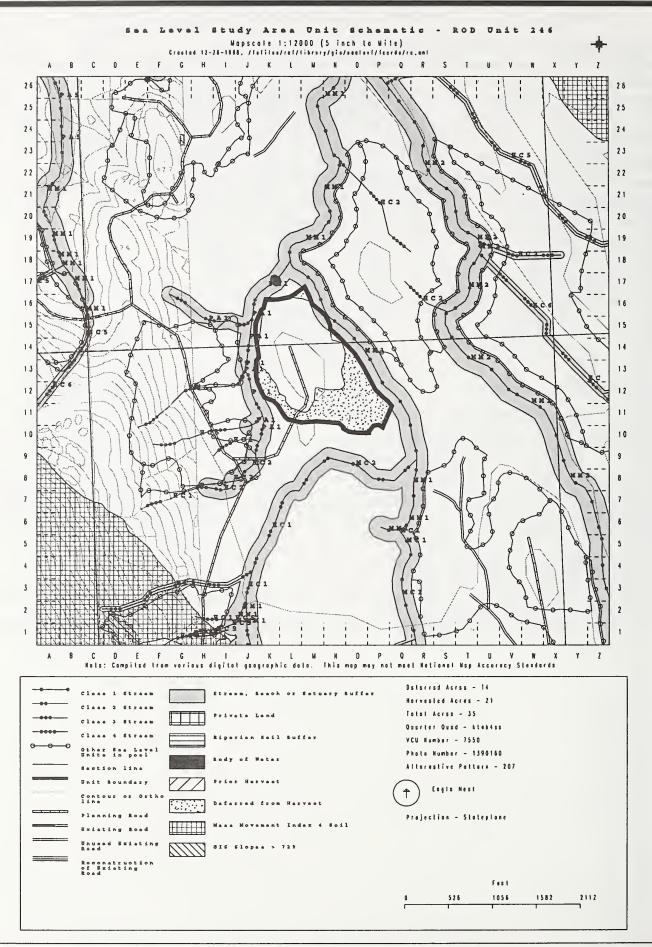
SOILS:

Most of this unit consists of medium-landslide-potential (MMI=3) soils (BMP 13.5). The south part of this unit consists of about 22 acres of forested wetland (BMP 12.5). Use a low-impact logging system that minimizes ground disturbance and provides at least partial log suspension when yarding on wetlands and high-landslide-potential soils (BMP 13.9). Limit blasting for road construction and rock pit development when the soil is saturated (BMP 14.6). On wetlands, use overlay road construction and minimize side ditching, where practicable, to minimize the effects upon groundwater flow (BMPs 12.5 and 14.3). Avoid the use of these wetlands for the disposal of waste material or other fill (BMP 14.19).

TIMBER:

This unit is designed for running skyline logging.

WILDLIFE:



Unit Number:	250	Planned Acres:	20.5	Silvicultural Systems:	2 age CCR	In Alternatives:	2, 7
LUD:	TP	Harvest Acres:	9.6	Quad:	ktnb4sw	VCU Number:	7560
Primary Watershed Code:	E69A	Primary WAA Number:	405			Photo:	1390-74
Number of Settings:	5	Logging System:	RS	Total	Estimated Harv	est Volume (MBF):	304.9

PHYSICAL DESCRIPTION											
Volume Strata	Low:	0.0	Medium:	0.0	High:	19.3	Noncommercial:	1.2	Primary Aspect:	Е	
Visuals Seen: 0.0								TLMP H	igh Value Marten Habitat:	19.5	
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0	
Wetland Type		Fore	ested Wetland:	12.9							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class I HC3 north: 100-foot buffer required.

Class I FP4 northwest: Greater of 130-foot or floodplain RMA buffer required.

Class II (direct) MM1 south: Greater of 120-foot or RMA buffer required.

Class III HC5 south: Sideslope Standard & Guideline buffer to form unit boundary.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No visible negative impacts and not near any recreation place or site.

SILVICULTURE:

Highly productive. Two-aged clearcut w/reserves, harvest 10 acres. Leave approximately 11 acres unharvested to meet Marten standards (see wildlife). Stand should regenerate naturally. CT 12/16/98

SOILS:

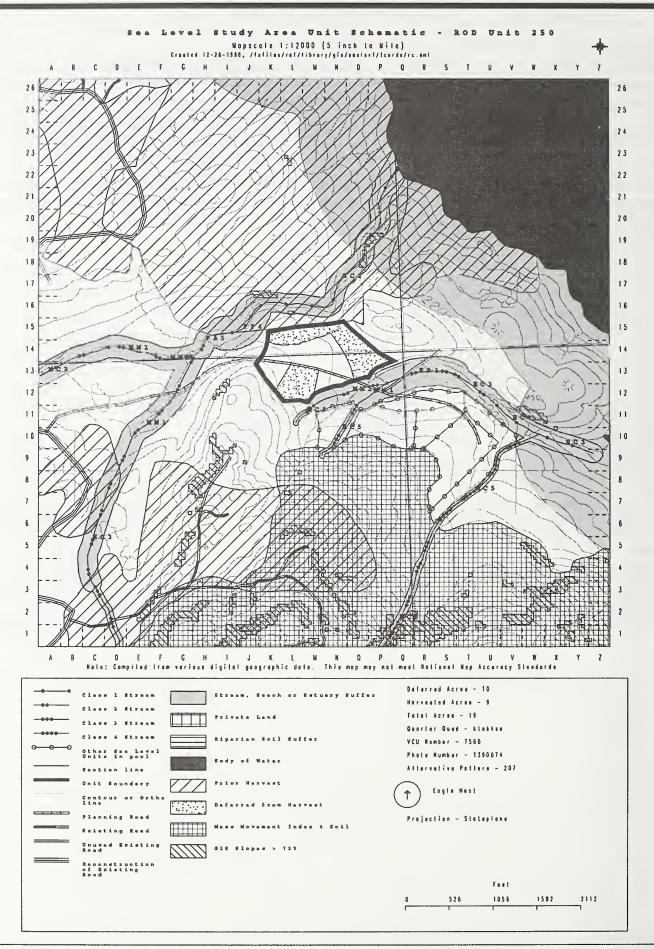
The central two-thirds of this unit consists of forested wetlands (BMP 12.5). Use a low-impact-logging system on these wetlands which minimizes ground-surface disturbance and provides at least partial log suspension when yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flows (BMPs 12.5 and 14.3).

TIMBER:

The logging system designed for this unit is running skyline. Confirm final road, landing locations, and yarding corridors.

WILDLIFE

Marten guidelines apply: maintain 30 percent canopy closure, average 8 large trees per acre (20-30"+), average 3 large decadent trees per acre (20-30"+), and average 3 pieces downed logs per acre (20-30"+).



Unit Data Card - Sea Level Final EIS

Unit Number:	318	Planned Acres:	19.1	Silvicultural System:	CC, DEF	In Alternatives:	2, 5, 7
LUD:	TP	Harvest Acres:	16.8	Quad:	ktnb4sw	VCU Number:	7530
Primary Watershed Code:	EZ2A	Primary WAA Number:	405			Photo:	1390-80
Number of Settings:	5	Logging Systems:	RS, SH	Total Esti	mated Harve	est Volume (MBF):	419.3

PHYSICAL DESCRIPTION											
Volume Strata	Low:	16.9	Medium:	0.0	High:	0.0	Noncommercial:	0.0	Primary Aspect:	W	
Visuals Seen: 0.0								TLMP I	ligh Value Marten Habitat	0.0	
Mass Movement Index	High:	0.0	Very High:	0.0					Slopes Greater Than 72%:	0.0	
Wetland Type		Fore	ested Wetland:	7.2							
Notes: These numbers are acres unless otherwise specified. The data is derived from digital geographic data and so the coverages may not meet National Map Accuracy Standards.											

CULTURAL RESOURCES:

No concerns. Report #1995-05-05, 1/30/95 SHPO letter 2/21/95 Report #1995-05-05 add 1, 11/3/95 SHPO letter 1/2/96 RAL

ENGINEERING/ROADS:

No concerns.

FISH/WATERSHED:

Class II (nondirect) MM1 northwest: Greater of 120-foot or RMA buffer required.

Class II (nondirect) MC2 southeast: Greater of 100-foot or RMA (top of sideslope) buffer required.

Class II (nondirect) PA2 and PA5 west: RMA buffer required.

GEOLOGY:

No concerns.

LANDS:

No concerns.

RECREATION/VISUALS:

No concerns.

SILVICULTURE:

Moderately productive. Even-aged clearcut with deferral, harvest 16.8 acres. Plant 3 acres with Alaska-yellow cedar. The remainder of the stand should regenerate naturally. CT 12/16/98

SOILS:

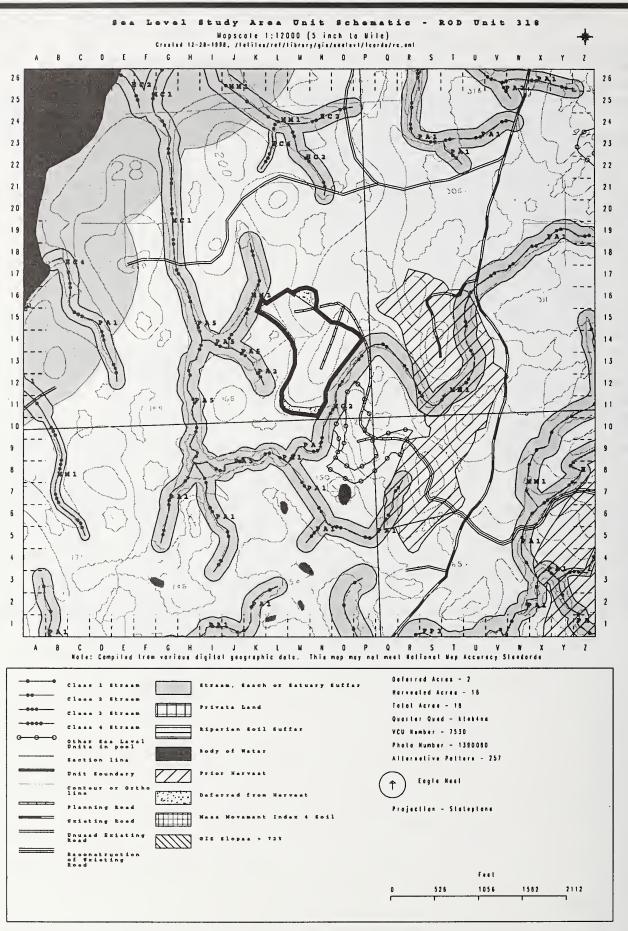
The northern and southern ends of this unit include about 7 acres of forested wetlands (BMP 12.5). Use a low-impact-logging system on these wetlands which minimizes ground surface disturbance and provides at least partial-log suspension when yarding (BMP 13.9). Use overlay-road construction and minimize side-ditching, where practical, to minimize the effects upon ground-water flows (BMPs 12.5 and 14.3).

TIMBER:

The logging systems designed for this unit are running skyline and shovel. Confirm final road and landing locations. Verify feasibility of split-yarding Class III stream within unit and adjust roads, landings, or modify unit boundary if required.

WILDLIFE

Unit Data Card - Sea Level Final EIS



Appendix 2

Road Cards



Road Cards

Access Management

The Project Area is isolated from other major road systems. Accordingly, only intermittent resource management will be applied. Only off-road vehicular and foot traffic is expected.

During resource management activities, the roads will be maintained commensurate with the activity. After completion of the management activity, the roads will revert to the following maintenance levels.

- Maintenance Level 1: Roads are closed by bridge removal or organic encroachment and are monitored for resource protection.
- Maintenance Level 2: Roads are maintained for high-clearance vehicles and monitored for resource protection.

Accordingly, the road management strategy is as follows:

- All new roads will be closed or blocked to public vehicle use.
- Main-trunk roads will receive long-term access for Forest administration such as
 future timber or salvage sales, fish-pass access, and maintenance and traffic
 associated with special-use permits. Such roads will remain open for
 high-clearance-vehicular traffic.

The entire road template will be seeded. This will include the road surface and the cut and fill slopes. Seeding of the road bed is a technique to retard alder growth, achieve low-maintenance costs, and reduce road reactivation costs when re-used for transporting forest products.

Numerous roads are expected to be used intermittently with long periods of nonuse. Most modular bridges will be removed upon completion of harvest activities. Other drainage structures will be left in place.

Some roads are not anticipated to be needed for any future activities or use. These roads will be closed by eliminating access, including removing all drainage structures, scarifying the roadbed and seeding.

Card Design

The road cards display roads contained in Alternatives 7. Some existing roads displayed on the road cards do not reflect stream crossings as drainage structure replacement was not anticipated. Should it be found necessary to replace structures on such roads, the structures will be reconstructed in accordance with pertinent BMPs and design standards as used for new facilities.

Due to map scale, road cards do not reflect many roads ¼ mile and under. See Unit Cards for details concerning such roads.

List of Road Cards

8300340	841000
8300350	842200
8340000-1 and -2	842210

20.0000 1 4112 2	0.22.00
8340200-2	8430000-1 through -3
8340220	8430010

8340230	8430030 and -1
8340240	8430060
8340295	8430080
8340300-2	8430082
8340400-2	8430290
8340600	8430295
8340700	8440000-1
8340800	8440110

8400000-1 through -6	8440113
8400000-8 and -9	8440115
8400180	8440600
8400190	8440700

8400260	8441100-1 and -2
8400280	8441105
8400285	8444000-1
8400320	8445000
8400340	8445100

8400340 8445100 8400342 8446000-1 8400425

8400480

Road Management Objectives

Project/EIS		System		Land Use Designation						
Sea Level		Revill	villa Island TM							
Route Number		Route Na	me	Status						
8300340		Wiggl	y	Existing Road						
Begin M.P. 0.00	I	ength	-	gin Termini 0.00						
		Comovol	Dasian Cui	towin and T	- I ama améa					
		General	Design Cri	teria and i	Liements					
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10			
Intended Purpos	e/Future Use:									
Silvicult	ural activities									
		<u>Ma</u>	<u>intenance C</u>	<u>Criteria</u>						
Operational Ma	aintenance Leve	2		0	bjective Main	tenance Level	1			
Maintenance Nai	rrative: Close ro	ad upon completio	n of harvest ac	tivities.						
		<u>O</u>	peration Cr	<u>iteria</u>						
Highway Safety	Act: No	Jurisdiction:	National Fores	st Ownership	AFF	RPR Status: ina	ctive			
Travel Managem	ent Strategies:									
		N/A								
	Encourage: Accept:	Hikers, Bicycles	s ORV's							
	Discourage:	N/A	3, 010 3							
	Prohibit:	N/A								
1	Eliminate:	N/A								
Traval Managam	ant Narrativa	Waterbar road; see	d and fartilize	entire roadwa	N					
TTavel Managem	ent warranve.	waterbar road, see	d and fertilize	citific Toadwa	ıy.					
District Ranger A	Approval (signat	ure)			Date:_	·				

Road Management Objectives

Site Specific Design Criteria

Road No. 8300340

Road Location: Road accesses Unit 203. Road reconstruction should be moderate to easy over most portions of the road, mainly removal of water bars and restoration of running surface.

Wetlands: N/A

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during reconstruction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber	Logging	Systems:
I IIIII	L 0 5 5 1115	o journey.

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

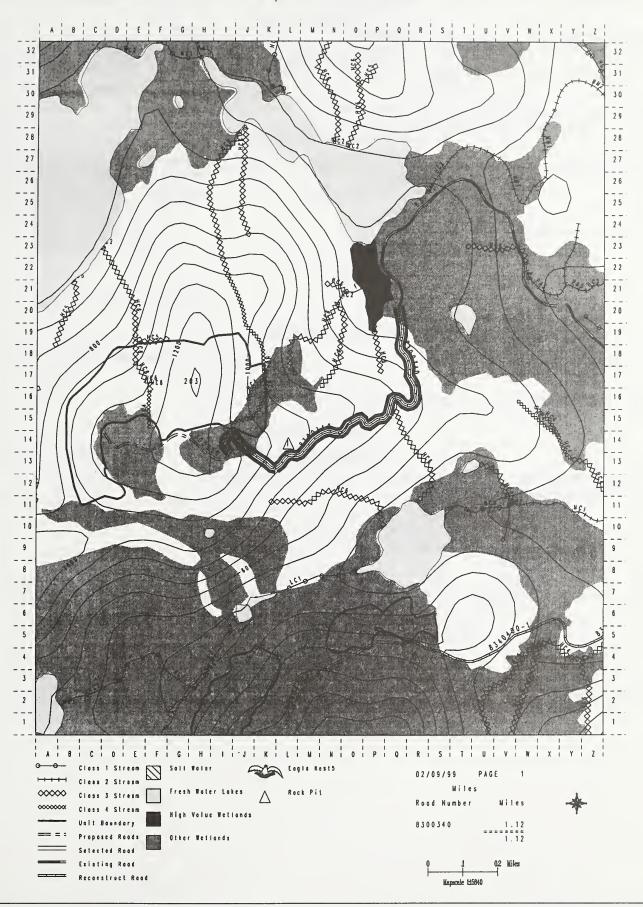
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

No new streams were crossed, existing drainage structures are adequate.



		Koad Mai	iagemei	n Obje	cuves		
Project/EIS Sea Level Route Number 8300350 Begin M.P.		System Revilla Island Route Name Wiggly Length 00.43		gin Termini 0.00		Designation Onstruction End Termini 0.43	
		General	Design Cri	teria and I	Elements		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
ntended Purpos	se/Future Use:						
Silvicult	ural activities						
			intenance (
Operational M	aintenance Leve	2		Obje	ctive Mainten	ance Level	1
Maintenance Na	rrative: Close ro	ad upon completion	on of harvest ac	ctivities.			
		<u>0</u>	peration C	riteria			
Highway Safet Fravel Managen		Jurisdiction:	National Fore	st Ownership	AFI	RPR Status: cl	osed
	Encourage: Accept: Discourage: Prohibit:	N/A Hikers, Bicycl N/A N/A	es, ORV's				
Fravel Managen	Eliminate nent Narrative:	N/A Remove all draina	ge structures a	nd water-bar	road. Seed and	l fertilize entire	roadway.
					•		
District Ranger	Approval (signa	ture)			Date:		

Site Specific Design Criteria

Road No. 8300350

Road Location: Road accesses Unit 203. Road reconstruction should be moderate to easy over most portions of the road, mainly removal of water bars and restoration of running surface.

Wetlands: N/A

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during reconstruction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/L	ogging	Systems:
----------	--------	----------

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

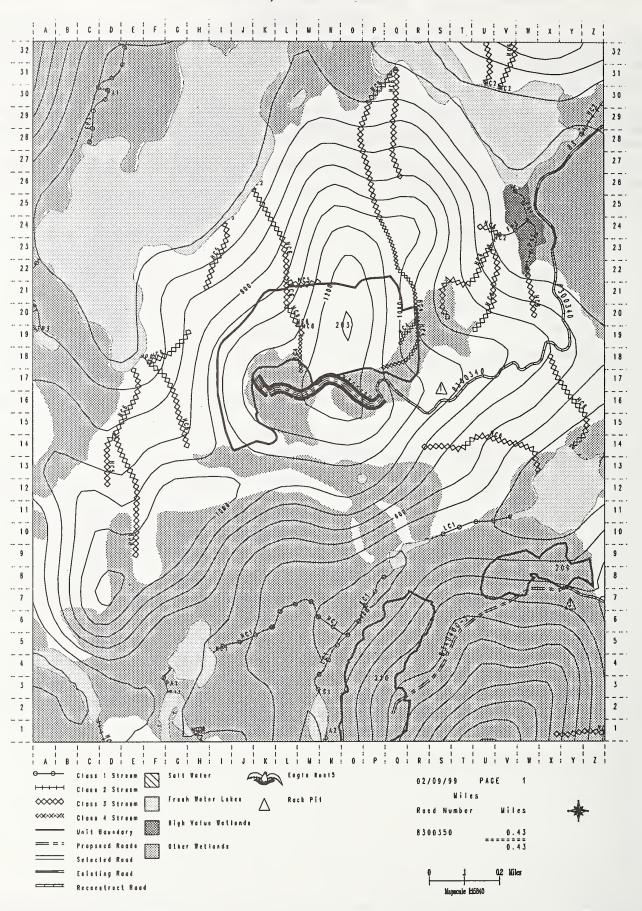
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

No new streams were crossed. Existing drainage structures are adequate.



Project/EIS Sea Level Route Number		System Revill Route Na	a Island ime	Land Use Designation TM Status				
8340000-1 ar Begin M.P.		Length	Be	gin Termini	Reconst	ruction End Termini		
0.00		11.00		0.00		11.00		
		General	l Design Cri	teria and I	Elements			
Functional Class	Service Life	Traffic Service Level	Surface	Width	Critical Vehicle	Design Vehicle	Design Speed	
L	LI	D	Rock	14	Log Truck	Log truck	10	
Intended Purpose	/Future Use:							
Silvicultu	ral activities							
		<u>M</u> a	intenance (<u>Criteria</u>				
Operational Ma Maintenance Nar					ntenance Leve	e l 1		
		vel 2		bjective Mai	ntenance Leve	e l 1		
	rative:	vel 2	o peration Cr	bjective Mai		el 1	active	
Maintenance Nar Highway Safety	rative: Act: No	vel 2 O Jurisdiction:	o peration Cr	bjective Mai			active	
Maintenance Nar Highway Safety Fravel Manageme I I I I	rative: Act: No	vel 2 O Jurisdiction:	Operation Co	bjective Mai			active	
Maintenance Nar Highway Safety Travel Manageme F F F F F F Travel Manageme	rative: Act: No ent Strategies: Encourage: Accept: Discourage: Prohibit: Eliminate: ent Narrative:	Jurisdiction: N/A Hikers, Bicycle N/A N/A	Operation Cr National Fore es, ORV's	bjective Mai riteria st Ownership	AFI	RPR Status: in		
Maintenance Nar Highway Safety Travel Manageme F F F F Travel Manageme system not connect	Act: No ent Strategies: Encourage: Accept: Discourage: Prohibit: Eliminate: ent Narrative: ted to any com	Jurisdiction: N/A Hikers, Bicycle N/A N/A N/A N/A Maintain road for	Peration Cr National Fore es, ORV's	bjective Mai	AFI oost harvest ma affic anticipate	RPR Status: in	rities. Road	

Site Specific Design Criteria

Road No. 8340000-1 and -2

Road Location: Existing road. Sort yard to be established utilizing rock pit approximately m.p. 0.70.

Wetlands: Existing road, footprint of road will not change.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: 8340000-2 is within ½ mile of a bald eagle nest.

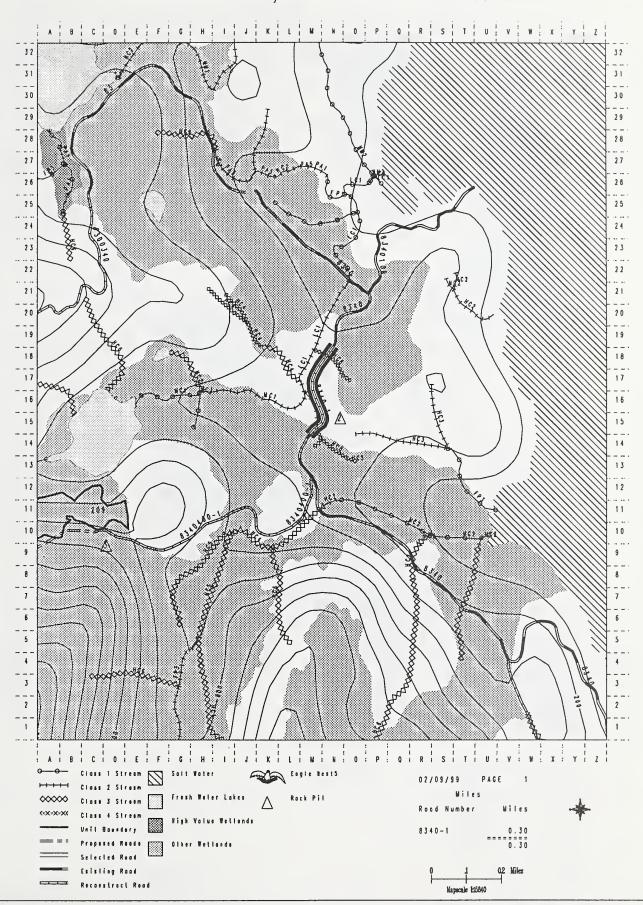
Visual/Recreation:

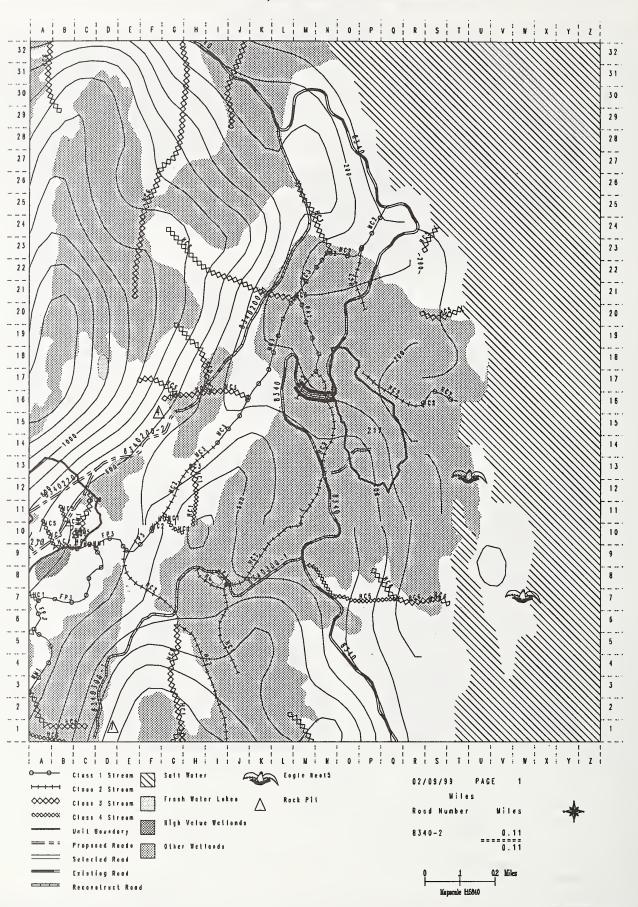
Cultural:

Stream Crossings

A.) M.P. 0.50 AHMU Class II Channel Type: HC2 BF Width: 1.5m BF Depth: 20cm Substrate: gravel/cobble Gradient 4 to 8% Structure: 600 mm cmp Passage Required: yes Timing Dates: none Narrative: During culvert inspections, this stream crossing located at milepost 0.5 was identified as a fish passage failure due to perching of 1.2 feet at the outlet. A reconnaissance conducted above and below the stream crossing verified resident cut-throat and dolly varden throughout. Replacement of the existing culvert with a structure to ensure proper fish passage is scheduled for FY'99. Timing restrictions for in-stream construction is not required due to the distance (<1 mile) from downstream anadromous fish habitat.

B.) M.P. 2.7 AHMU Class II Channel Type: HC2BF Width: 2.0m BF Depth: 22cmSubstrate: gravel/cobble Gradient 2 to 6% Structure: 1,800 mm cmp Passage Required: yes Timing Dates: none Narrative: During culvert inspections, this stream crossing located at milepost 2.7 was identified as a fish passage failure due to perching of 1.8 feet at the outlet. A reconnaissance conducted above and below the stream crossing verified resident cutthroat and dolly varden upstream and downstream of the stream crossing. Replacement of the existing culvert with a structure to ensure proper fish passage is scheduled for FY'99. Timing restrictions for in-stream construction is not required due to the distance (< 1 mile) from downstream anadromous fish habitat.





Project/EIS Sea Level Route Number 8340200-2		System Revilla Route Nai Bolt			TM Status	Designation nstruction	
Begin M.P. 1.00	Le	ngth 1.81	Ве	gin Termini 1.00		End Termini 2.81	
		General	Design Cri	teria and E	Elements		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
Intended Purpose	e/Future Use:						
	ral activities						
		Mo	intononos (· · · · · · · · · · · · · · · · · · ·			
Operational Ma	intenance Level	<u>lvia</u> 2	intenance (Maintenance l	Level	ı
				o significant of			
Maintenance Nar	rative:						
		<u>O</u> 1	peration Ci	<u>iteria</u>			
Highway Safety	Act: No	Jurisdiction:	National Fore	st Ownership	AFI	RPR Status: cl	losed
Travel Managem	ent Strategies:						
I I	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers, Bicycles N/A N/A N/A	s, ORV's				
Travel Managem grass-seed entire reterminal.							
District Ranger A	pproval (signatu	ire)			Date:_		

Site Specific Design Criteria

Road Number 8340200-2

Road Location: Road accesses Units 219, 215, 220, and 224. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There is one sections where road location crosses steep slopes over 67 percent (m.p. 0.1 to 0.15). Where road passes from one bench to the next lower bench.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.75 to 1.81) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.50	AHMU Class 1	V Channel T	Гуре: НС5	5 BF Width: 1.0 m BF Depth: 10 cmSubstrate: sand/gravel
Gradient: 30%	Structure: 4	150 mm cmp	Pass	ssage Required: none Timing Dates: none

Narrative:

B.) M.P. 0.58	AHMU CI	ass 1V	Channel Type: H	C5 BF Width:	1.5 m BF	Depth: 10 cmSubstrate	: cobble/gravel
Gradient: 25%	Structu	ire: 450 i	nm cmp]	Passage Require	d: none	Timing Dates: none	

Narrative:

AHMU Class IV Channel Type: HC1 BF Width: 1.0 m BF Depth: 15 cmSubstrate: cobble/sand C.) M.P. 0.79 Passage Required: none Gradient: 17% Structure: 450 mm cmp Timing Dates: none

Narrative:

AHMU Class IV Channel Type: HC4 BF Width: 1.5 m BF Depth: 10 cmSubstrate: bedrock/cobble D.) M.P. 0.97

Gradient: 20%

Structure: 450 mm cmp Passage Required: none Timing Dates: none

Narrative:

Sea Level Study Area Road Card 8340200-2 C . O . E . F . G . H . I . J . K . L . M . N . O . P . Q . R . S . T . U . V . W . X . Y . Z . 2 8 2 8 2 5 2 4 2 3 2 1 2 0 1 6 1.4 1.4 MINIDIPIQIR:S G 1 H 1 Rack Pit Road Number 8340200-2 02 Miles

Road Management Objectives Project/EIS System Land Use Designation Revilla Island Sea Level TM Route Number **Route Name** Status 8340220 Bolt New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.00 0.46 0.46 General Design Criteria and Elements **Functional** Service Traffic Surface Width Critical Design Design Life Service Level Class Vehicle Vehicle Speed Rock L LI D 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 **Maintenance Narrative: Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed **Travel Management Strategies:** Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water bar and

Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_	Date:
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Site Specific Design Criteria

Road No. 8340220

Road Location: Road accesses Unit 215. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.41 to 0.46) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource Information	(if	applicable)):
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Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

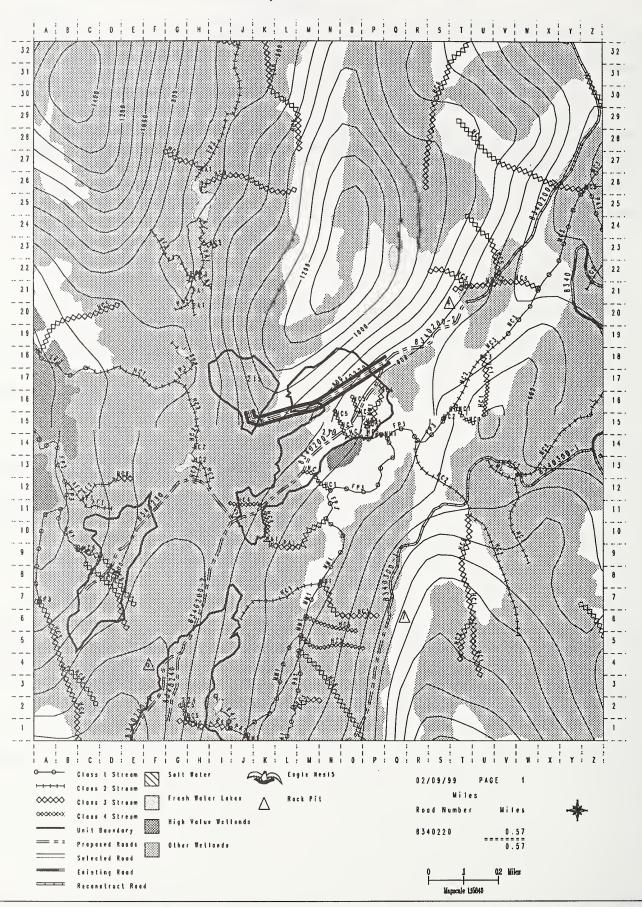
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Revilla Island TM Sea Level Route Name Status **Route Number** Peep New construction 8340230 Begin Termini **End Termini** Begin M.P. Length 0.62 0.00 0.62 0.00 General Design Criteria and Elements **Functional** Service Traffic Surface Width Critical Design Design Service Level Vehicle Vehicle Speed Class Life L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria **Operational Maintenance Level** 2 Objective Maintenance Level 1 Maintenance Narrative: **Operation Criteria** Jurisdiction: National Forest Ownership **Highway Safety Act:** No AFRPR Status: closed **Travel Management Strategies:** Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

____Date:_____

District Ranger Approval (signature)___

Site Specific Design Criteria

Road No. 8340230

Road Location: Road accesses Unit 220. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber/I	Logging	Systems:
I IIII O O I / I		O J D COLLEGE

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

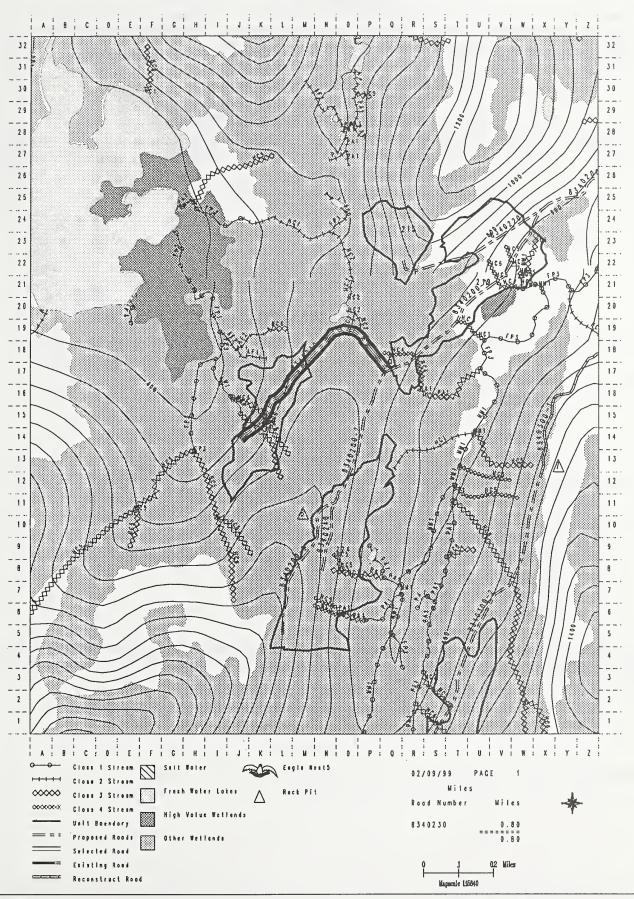
Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.50 AHMU Class III Channel Type: HC5BF Width: 1.5m BF Depth: 15cmSubstrate: bedrock/cobble Gradient: 25% Structure: 900 mm cmp Passage Required: none Timing Dates: none Narrative:

B.) M.P. 0.55 AHMU Class III Channel Type: HC5 BF Width: 2m-3m BF Depth: 10cmSubstrate: bedrock/cobble Gradient: 25% Structure: 900 mm cmp Passage Required: none Timing Dates: none Narrative:



Road Management Objectives System

Land Use Designation Project/EIS Revilla Island Sea Level TM Route No. Route Name Status New construction 8340240 Peeper Begin M.P. Length Begin Termini End Termini 0.00 0.25 0.00 0.25 General Design Criteria and Elements Service Traffic Surface Width Critical Functional Design Design Class Life Service Level Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 **Maintenance Narrative: Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and

grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)____ _Date:__

Site Specific Design Criteria

Road No. 8340240

Road Location: Road accesses Unit 224. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

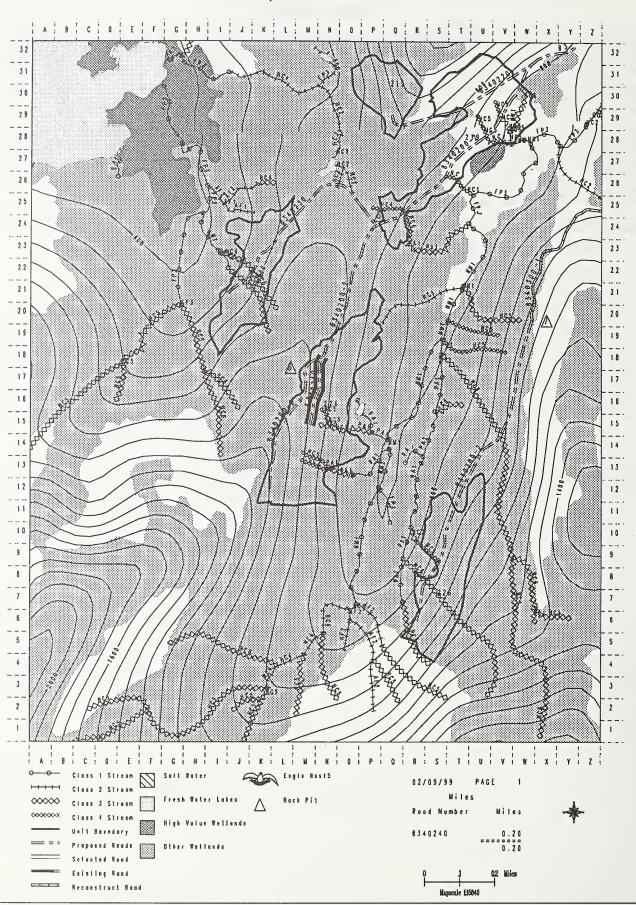
Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests. Rock source for this road will be located off of designated wetlands.

Timber/Logging Systems:

impenzossing of steme.
Soils/Water:
Silviculture:
Lands/Minerals/Geology/Karst:
Wildlife:
Visual/Recreation:
Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Revilla Island Sea Level TM **Route Name** Status **Route Number** Addon New construction 8340295 Begin Termini End Termini Begin M.P. Length 0.00 0.18 0.00 0.18 **General Design Criteria and Elements** Surface Width Critical **Functional** Service Traffic Design Design Class Life Service Level Vehicle Vehicle Speed Rock 14 Log Truck Ţ. LI D Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities Maintenance Criteria 2 Objective Maintenance Level **Operational Maintenance Level** Maintenance Narrative: **Operation Criteria Highway Safety Act:** Jurisdiction: National Forest Ownership AFRPR Status: closed No Travel Management Strategies: N/A Encourage: Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

Appendix 2—Road Cards ■ Page 25 of 161

Date:

District Ranger Approval (signature)___

Site Specific Design Criteria

Road No. 8340295

Road Location: Road accesses Unit 217. Road construction should be moderate over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

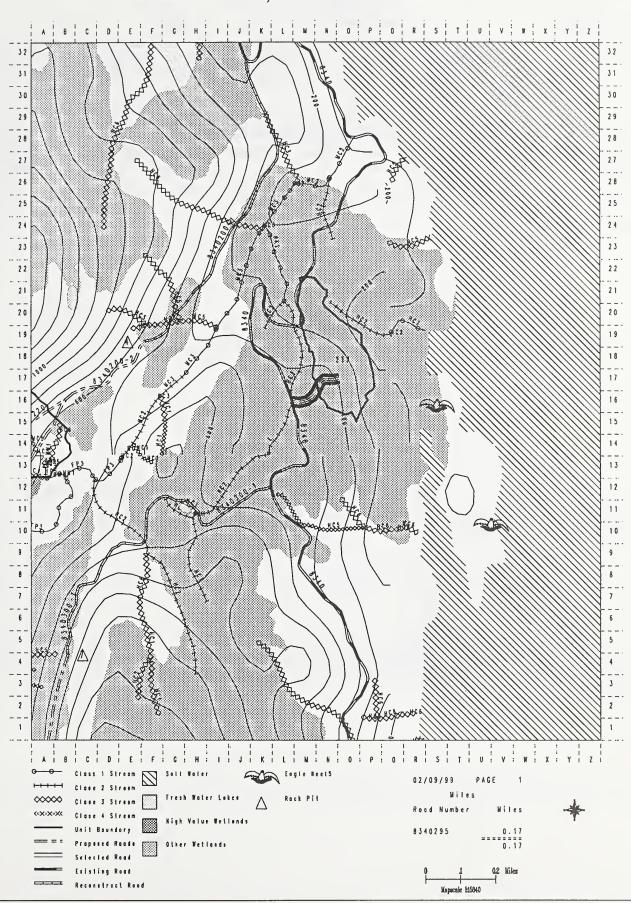
Wildlife: Road is within ½ mile of a bald eagle nest.

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives System

Project/EIS Land Use Designation Revilla Island Sea Level TM Route Number Route Name Status 8340300-2 Buck New construction Begin M.P. Length Begin Termini **End Termini** 0.94 0.00 0.90 1.84 General Design Criteria and Elements **Functional** Service Traffic **Surface** Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed LI D Rock 14 Log Truck L Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level** Objective Maintenance Level 1 **Maintenance Narrative: Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: N/A Encourage: Hikers, Bicycles, ORV's Accept:

Discourage:

N/A

Prohibit:

N/A

Eliminate:

N/A

Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed the entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)

Site Specific Design Criteria

Road No. 8340300-2

Road Location: Road accesses Unit 226. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.33 AHMU Class III Channel Type: HC6 BF Width: 3m Structure: 900 mm cmp Passage Req'd.:no

BF Depth: 17cm Substrate: bedrock/cobble

Gradient: 16% Narrative:

Gradient: 19%

B.) M.P. 0.74 AHMU Class IV Channel Type: HC5 BF Width: 0.5m BF Depth: 10cm Substrate: cobble/gravel

Timing Dates: none

Passage Req'd.: no Timing Dates: none

Narrative:

C.) M.P. 0.80 AHMU Class III Channel Type: HC6 BF Width: 1m Gradient: 12% Structure: 600 mm cmp Passage Req'd.: no

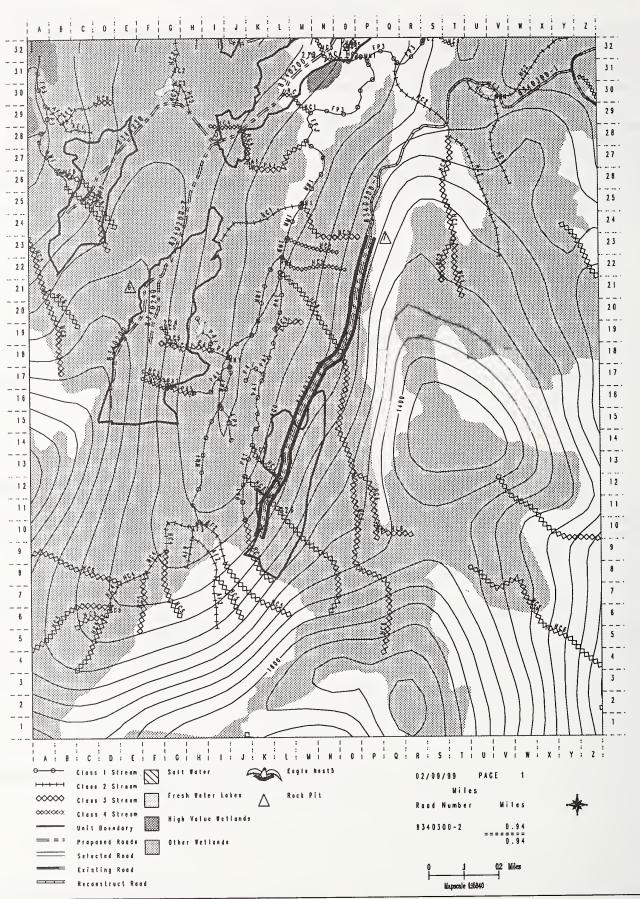
Structure: 450 mm cmp

BF Depth: 10cm Substrate: cobble/gravel

Timing Dates: none

Narrative:

Sea Level Study Area Road Card 8340300-2



Project/EIS Sea Level Route Number 8340400-2		Route Na Stirrug)	ogip Tormini	TM Status New co	Designation nstruction End Termini	
Begin M.P.		Length 0.79	В	egin Termini 0.75		1.54	
		<u>General</u>	Design Cr	iteria and I	<u>Elements</u>		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
Intended Dumped	o/Eutuno Haos						
Intended Purpos	e/Future Ose: ural activities						
Silvicuit	urai activities						
		Ma	intenance	Criteria			
Operational M	aintenance L <i>e</i>		<u> </u>		Aaintenance L	evel 1	
Operational ivi	amtenance De	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Objective	Tamtemance L	,	
Maintenance Na	rrative:						
		<u>o</u>	peration C	<u>riteria</u>			
Highway Safet	y Act: No	Jurisdiction:	National For	est Ownership	AFI	RPR Status: cl	losed
Fravel Managen	nent Strategies	s:					
	Encourage: Accept:	N/A Hikers, Bicycle	s, ORV's				
	Discourage: Prohibit:	N/A N/A					
	Eliminate:	N/A					
		e: Remove all draina road system is not co					
District Ranger .	Approval (sig	nature)			Date:		

Site Specific Design Criteria

Road No. 8340400-2

Road Location: Road accesses Units 209 and 210. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Sensitive Plant located near road. Avoid sensitive plant.

Visual/Recreation:

Cultural:

Stream Crossings

No designated streams crossed on this location.

Sea Level Study Area Road Card 8340400-2 A | 8 | C | D | E | F | C | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | 3.1 - -29 2 9 2 6 2 4 2.4 2 2 2 1 2 1 1.7 1.4 1 2 E F G Engle Beet5 Solt Water Rack Pit ∞∞∞ Road Number 8340400-2 Other Wetlands 0,2 Miles Existing Road Recenstruct Road

Sea Level ROD

Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Name Route Number Status 8340600 Crank New construction Begin M.P. Length Begin Termini **End Termini** 0.40 0.00 0.00 0.40 **General Design Criteria and Elements** Functional Service Traffic Surface Width Critical Design Design Service Level Class Life Vehicle Vehicle Speed LI D Rock 14 L Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria** Jurisdiction: National Forest Ownership **Highway Safety Act:** No AFRPR Status: closed **Travel Management Strategies:** N/A Encourage: Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal. District Ranger Approval (signature) Date:

Site Specific Design Criteria

Road No. 8340600

Road Location: Road accesses Unit 228. Road construction should be moderate over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.15) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

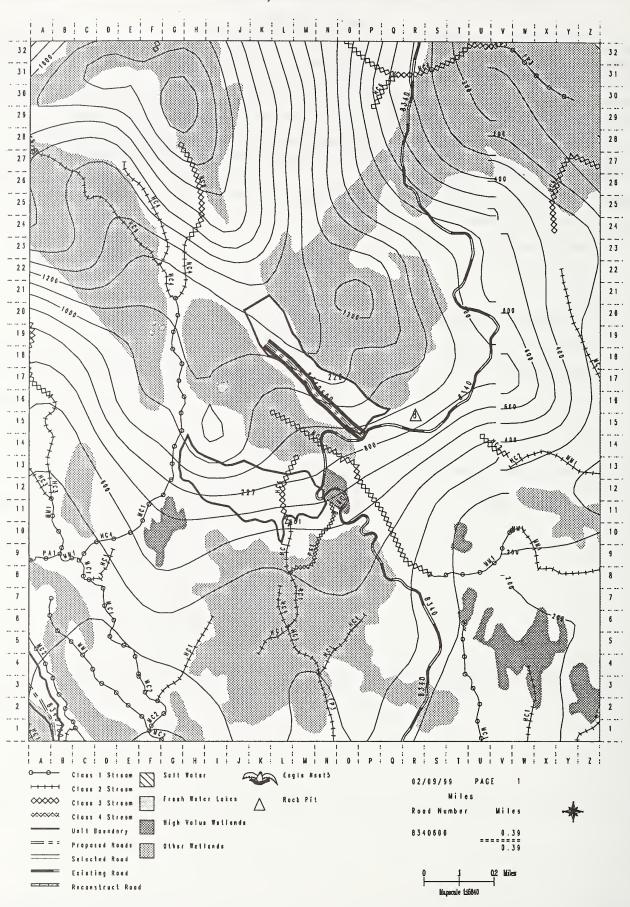
Wildlife: Sensitive plant located near road. Avoid plant population.

Visual/Recreation:

Cultural:

Stream Crossings

No designated streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Revilla Island Sea Level TM **Route Number** Route Name Status 8340700 Buckhorn New construction Begin M.P. Length Begin Termini **End Termini** 0.53 1.51 0.53 2.04 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Vehicle Class Life Service Level Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities **Maintenance Criteria Operational Maintenance Level** 2 **Objective Maintenance Level** Maintenance Narrative: **Operation Criteria Highway Safety Act:** Jurisdiction: National Forest Ownership No AFRPR Status: closed **Travel Management Strategies:** N/A Encourage: Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)

Date:

Site Specific Design Criteria

Road No. 8340700

Road Location: Road accesses Units 230, 231, and 232. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.1 to 0.3 and 0.5 to 0.75) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource Information (if applicable):

Timber	/Logging	Systems:
IIIII	100551115	Dy Stonis.

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

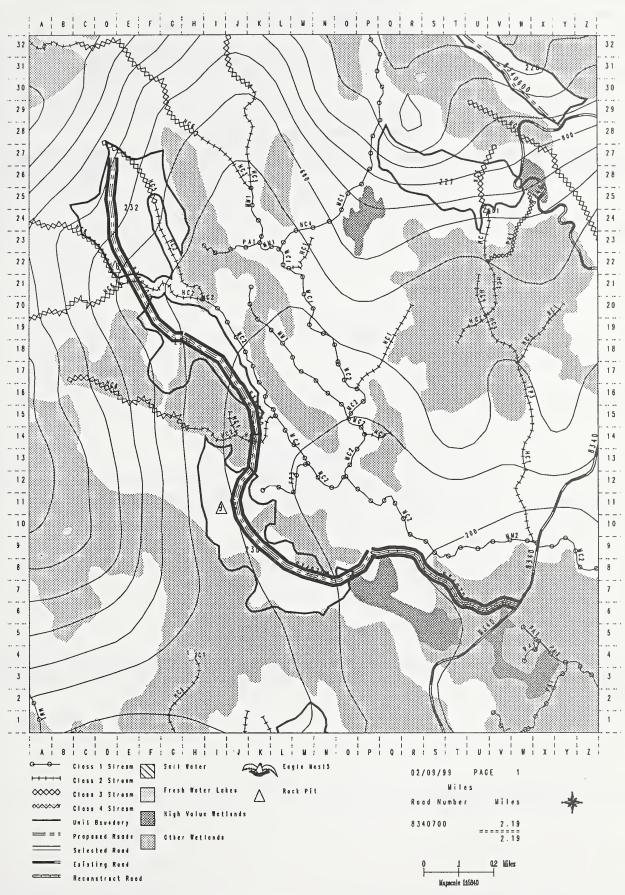
Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.52 AHMU Class II Channel Type: MM1 BF Width: 2-4 m BF Depth: 20cm Substrate: cobble Gradient: 4% Structure: 1,800 mm cmp Passage Req'd.: yes Timing Dates: none Narrative: Resident fish (cutthroat, dolly varden) were seen upstream and downstream of the proposed streamcrossing. Recommend installing a countersunk CMP or log-stringer temporary bridge to ensure proper fish passage. Timing is not required at this streamcrossing due to the distance (>1,000 ft) from downstream anadromous fish habitat and lack of sediment transport capabilities.

B.) M.P. 1.05 AHMU Class II Channel Type: HC2BF Width: 6-8m BF Depth: 40cmSubstrate: cobble/gravel Gradient: 4 to 6% Structure: Log Stringer Passage Req'd.: yes Timing Dates: none Narrative: Resident fish (Cutthroat, Dolly Varden) were seen upstream and downstream of the proposed streamcrossing. Due to the size of this streamcrossing and bedrock substrate present, recommend installing a log-stringer to provide proper fish passage. Timing restrictions (June 15 to August 7) are required for all instream activity due to the close proximity of anadromous-fish habitat located downstream.



Road Management Objectives System Project/EIS Land Use Designation Revilla Island Sea Level TM Route Number Route Name Status 8340800 New construction Length Begin Termini Begin M.P. **End Termini** 0.00 0.50 0.00 0.50 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Service Level Class Life Vehicle Vehicle Speed LI L D Rock 14 Log Truck Log Truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 **Maintenance Narrative: Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed **Travel Management Strategies:** Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal. District Ranger Approval (signature)_____

Date:__

Site Specific Design Criteria

Road No. 8340800

Road Location: Road accesses Units 235 and 236. Road construction should be moderate over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.15 and 0.30 to 0.46) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands.

Resource	Information	(if applicable):
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Timber/Logging Systems:
Soils/Water:

Lands/Minerals/Geology/Karst:

Wildlife:

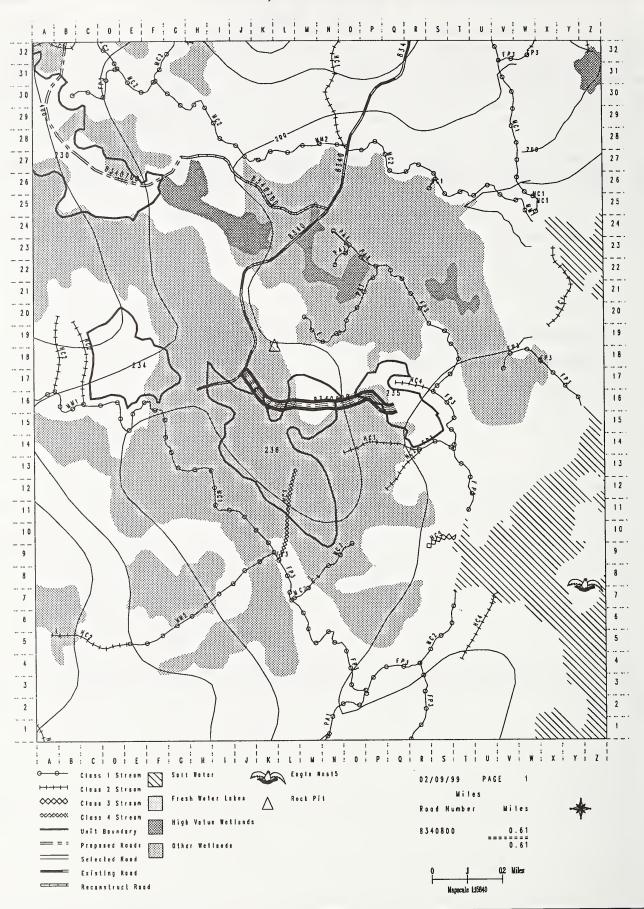
Silviculture:

Visual/Recreation:

Cultural:

Stream Crossings

No designated streams crossed on this location.



Project/EIS Sea Level Route Numbe 8400000 se	r ections 1 through	Route Na	a Island me		TM Status	Designation truction	
Begin M.P.	1	Length	I	Begin Termini		End Termini	
		General	Design C	riteria and l	<u>Elements</u>		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
Intended Purpo	se/Future Use:						
	tural activities						
			<u>intenance</u>				
Operational M	Iaintenance Lev	el 2		0	bjective Main	tenance Level	2
Maintenance Na	arrative:						
***			peration (
Highway Safet	ty Act: No	Jurisdiction:	National Fo	rest Ownership	AFI	RPR Status: ina	ctive
Travel Manager	nent Strategies:						
	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers, Bicycle nonsilvicultural N/A N/A					
Fravel Manager	nent Narrative:	Maintain road for	silvicultural	activities and p	oost-harvest ma	nnagement activi	ties.
District Ranger	Approval (signa	ture)			Date:		
9	11 \ 8	,					

Site Specific Design Criteria

Road No. 8400000-1 through -6

Road Location: Existing road.

Wetlands: Existing road, footprint of road will not change.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource	Information	(if	applica	ble):
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Timber/Logging Systems:
Soils/Water:
Silviculture:
Lands/Minerals/Geology/Karst:
Wildlife:

Cultural:

Visual/Recreation:

Stream Crossings

Road No. 8400000-1 through -6

8400000-1 M.P. 32.45 AHMU Class III Channel Type: HC5/PA5 BF Width: 2.0 BF Depth: 70cm Gradient: 0 to 15% Structure: 1,500 mm cmp Passage Req'd.: no Timing Dates: none Substrate: gravel/cobble Narrative: During culvert inspections, this culvert was identified as not providing proper drainage due to 100% blockage caused by a beaver dam present immediately downstream. This streamcrossing is tentatively scheduled for culvert replacement in FY'99. Passage requirements are not required due to the absence of fish habitat located upstream.

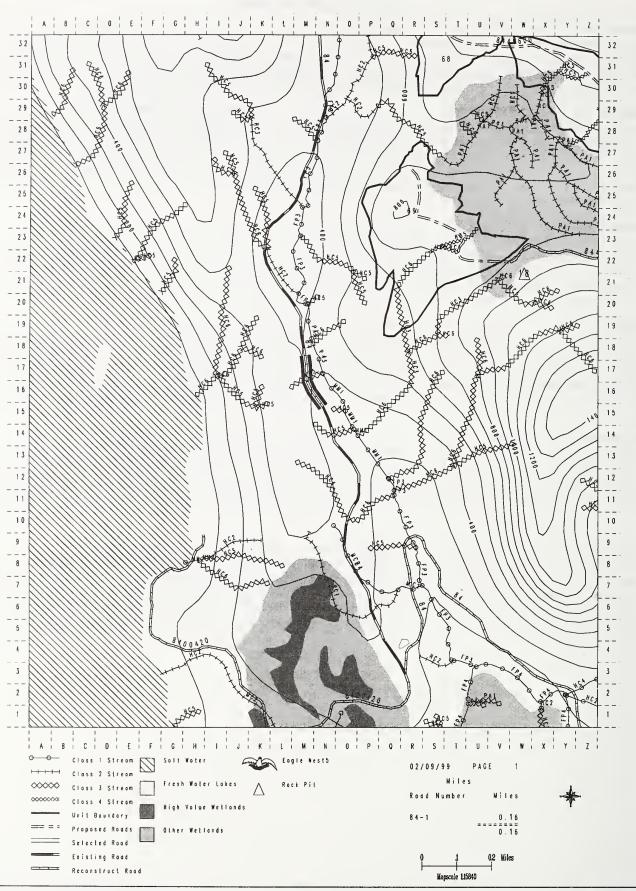
8400000-2 M.P. 33.77 AHMU Class II Channel Type: HC2/3 BF Width: 1.5 BF Depth: 25cm Gradient: 2 to 6% Structure: 1,500 mm cmp Passage Req'd.: yes Timing Dates: none Substrate: gravel/cobble Narrative: During culvert inspections, this streamcrossing was identified as a fish-passage failure due to perching of 1 foot at the outlet. A reconnaissance conducted above and below the streamcrossing verified resident cutthroat and dolly varden approximately 250 feet upstream of the crossing. Replacement of the existing culvert with a counter-sunk culvert is tentatively scheduled for FY'99. Timing restrictions for instream construction are not required due to the distance (<1 mile) from downstream anadromous-fish habitat.

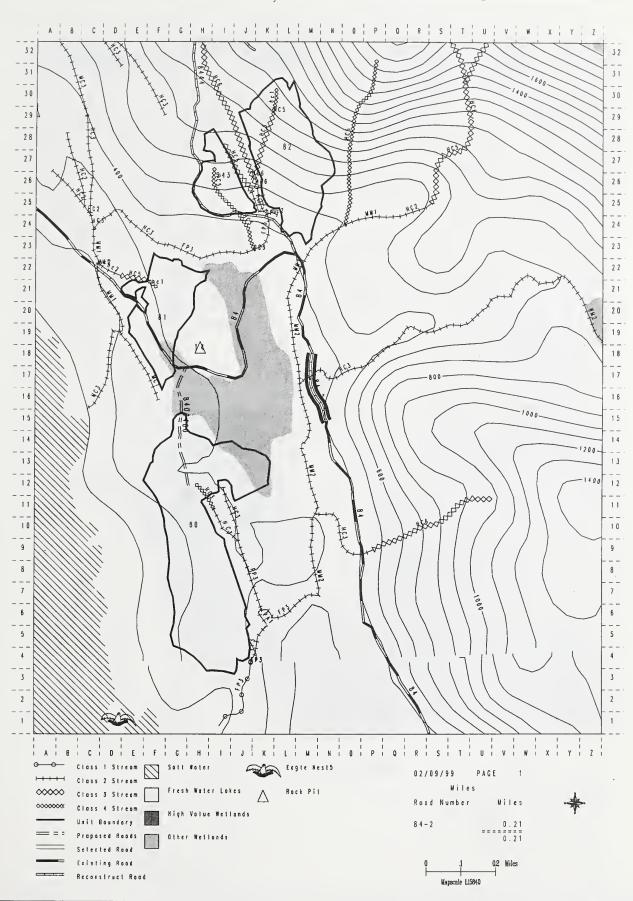
8400000-3 M.P. 36.19 AHMU Class II Channel Type: HC5/PA5 BF Width: 2.0 BF Depth: 70cm Gradient: 1 to 4% Structure: 2,400 mm cmp Passage Req'd.: yes Timing Dates: none Substrate: gravel/cobble Narrative: During culvert inspections, this streamcrossing was identified as a fish-passage failure due to perching of 1.8 feet at the outlet. A reconnaissance above and below the streamcrossing verified resident cutthroat and dolly varden throughout. Replacement of the existing culvert with a counter-sunk culvert is tentatively scheduled for FY'99. Timing restrictions for instream construction are not required due to the distance (<1 mile) from downstream anadromous fish habitat.

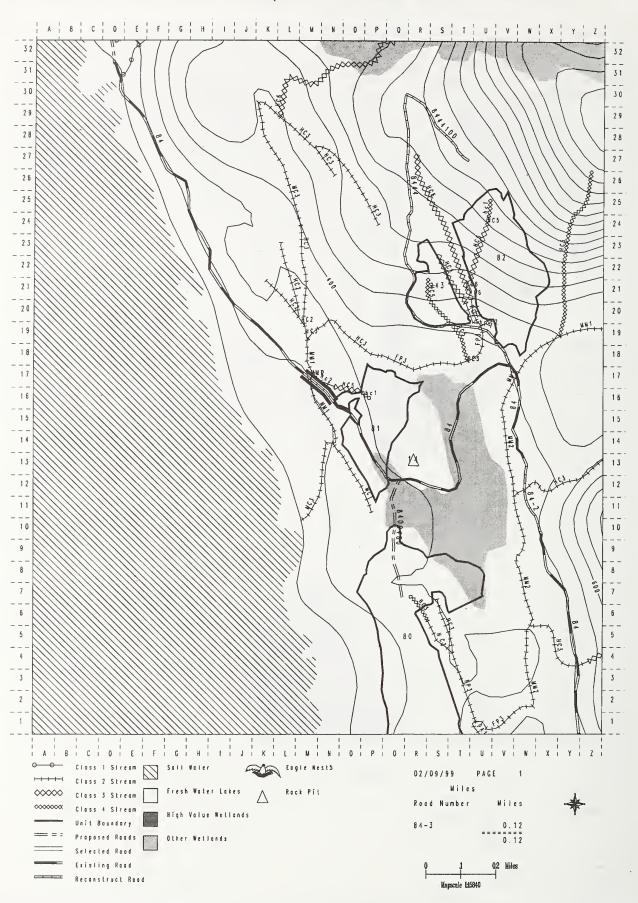
8400000-4 M.P. 29.61 AHMU Class I Channel Type: MM1 BF Width: 5m BF Depth: 30cm Gradient: 0 to 5% Structure: Bottomless Arched pipe Passage Req'd.: yes Timing Dates: yes Substrate: gravel/cobble Narrative: During culvert inspections, this streamcrossing was identified as a fish-passage failure due to perching of 1.6 feet and water velocity flowing through CMP. A reconnaissance verified resident cutthroat and dolly varden upstream and downstream of the streamcrossing. Replacement of the existing culvert with a bridge is tentatively scheduled for FY'99. Timing restrictions for instream construction are not required due to the distance (1.5 mile) from downstream anadromous-fish habitat.

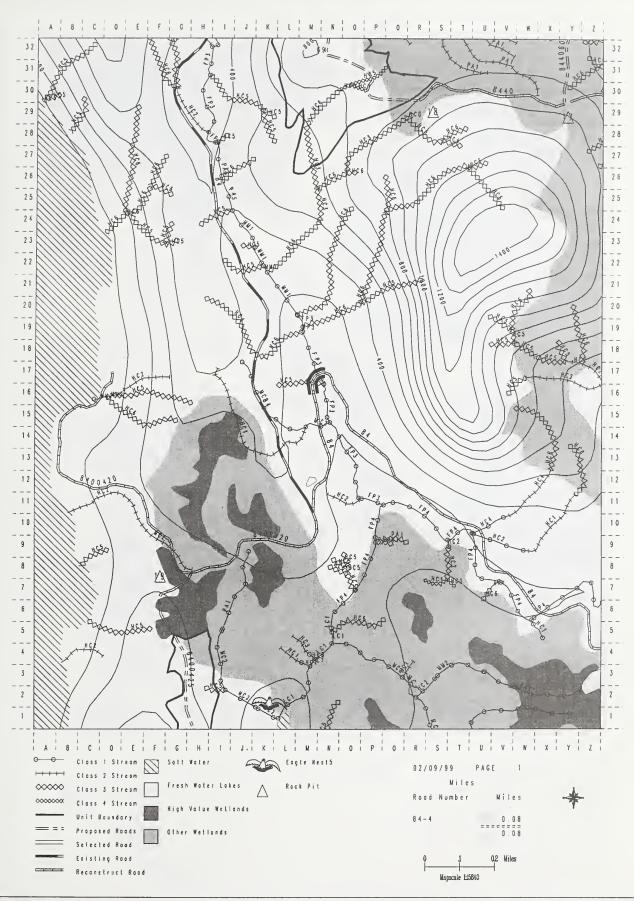
8400000-5 M.P. 26.81 AHMU Class II Channel Type: MC2/PA5BF Width: 5m BF Depth: 45cm Gradient: 0 to 5% Structure: 50' bridge Passage Req'd.: yes Timing Dates: none Substrate: bedrock/gravel Narrative: During culvert inspections, this streamcrossing was identified as a fish-passage failure due to perching of 1.6 feet and water velocity flowing through CMP. A reconnaissance verified resident cutthroat and dolly varden upstream and downstream of the streamcrossing. Replacement of the existing culvert with a bridge is tentatively scheduled for FY'99. Timing restrictions for instream construction are not required due to the distance (1.5 mile) from downstream anadromous fish habitat.

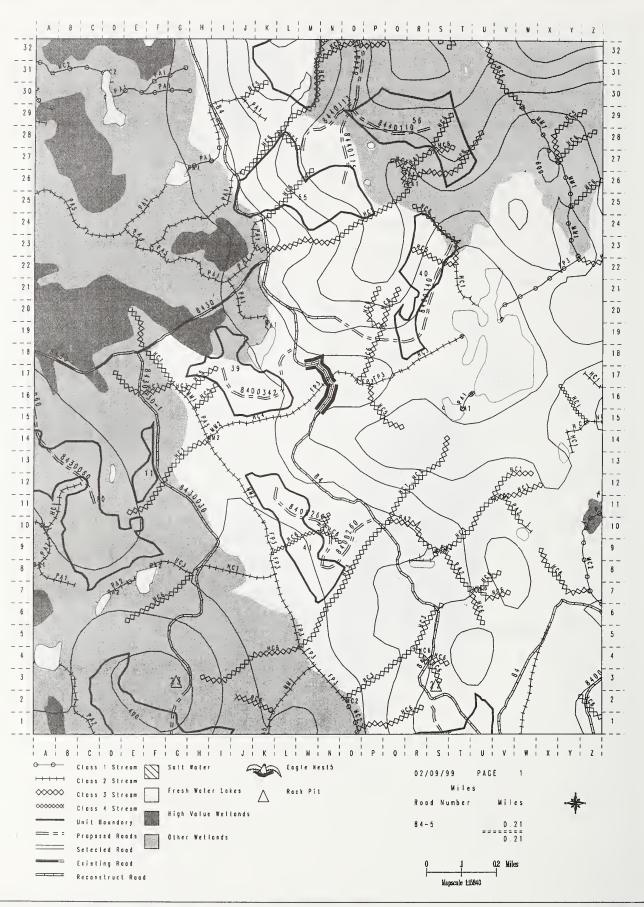
8400000-6 M.P. 11.10 AHMU Class II Channel Type:MM1 BF Width: 3.0 BF Depth: 25cm Gradient 2 to 5% Structure: 2,100 mm cmp Passage Req'd.: yes Timing Dates: none Substrate: gravel/cobble Narrative: During culvert inspections, this streamcrossing was identified as a fish-passage failure due to perching of 1.8 feet at the outlet. A reconnaissance conducted above and below the streamcrossing verified resident cutthroat and dolly varden throughout. Replacement of the existing culvert with a counter-sunk culvert is tentatively scheduled for FY'99. Timing restrictions for instream construction are not required due to the distance (< ½ mile) from downstream anadromous-fish habitat.

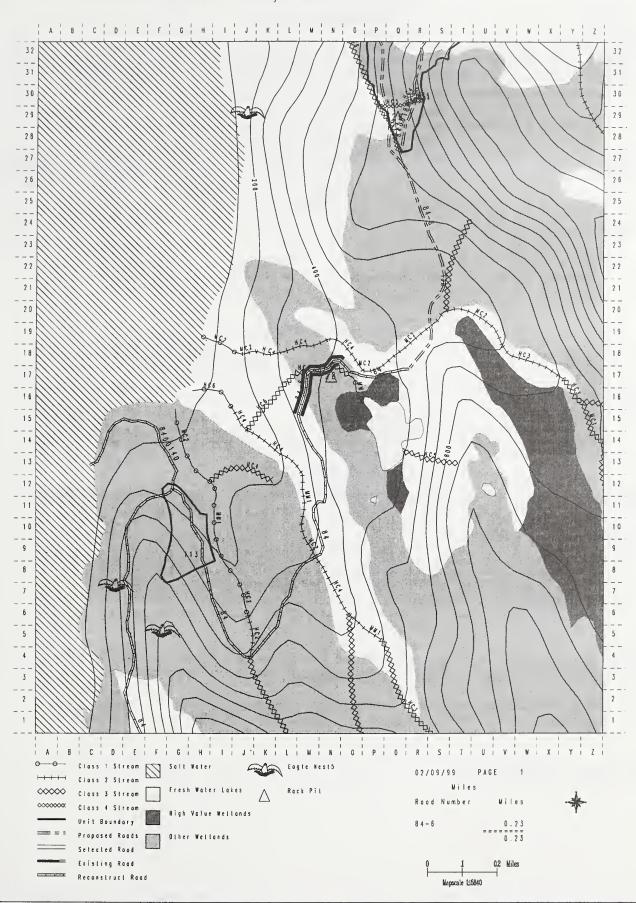












		1100000 11200.			TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT		
Project/EIS		System			Land Use	Designation	
Sea Level		•	la Island		TM	- 8	
Route Numb	er	Route Na	ame		Status		
8400000 s	sections -8 and -9	Seale	vel Creek		New co	nstruction	
Begin M.P. 0.00	L	ength	Ве	egin Termini		End Termini	
		Genera	l Design Cr	iteria and I	Elements		
Functional	Service	Traffic	Surface	Width	Critical	Design	Design
Class	Life	Service Level	D 1	1.4	Vehicle	Vehicle	Speed
L	LI	D	Rock	14	Log Truck	Log truck	10
Intended Purp	ose/Future Use:						
Silvicu	ıltural activities						
		Ma	intenance (<u>Criteria</u>			
Operational I	Maintenance Level	2		Objecti	ve Maintenan	ce Level	1
•				•			
Maintenance N	Varrative:						
		<u>O</u>	peration C	<u>riteria</u>			
Highway Safe	ety Act: No	Jurisdiction:	National Fore	st Ownership	AFF	RPR Status: In	nactive
Travel Manage	ement Strategies:						
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	s, ORV's				
	Discourage:	N/A					
	Prohibit: Eliminate:	N/A N/A					
	Ziiiiiiiiiiiiii	17/11					
	ement Narrative: I	nstall drivable wa	ter bars at 500	-foot intervals	after initial sil	vicultural activ	ities are com-
olete.							
District Danson	. Ammuoval (signatu)			Dotos		
District Kanger	Approval (signatu	11 e)			Date:_		

Site Specific Design Criteria

Road No. 8400000-8 and -9

Road Location: Road accesses Units 118, 119, 120, 121, 124, 125, and also accesses units tributary to road 8422000. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. Mile post 0.35 through 0.45 has some sections of steep slopes over 67 percent where road location goes from bench to bench. Road provides access to proposed LTF in Elf Point.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Road is within ½ mile of 4 bald eagle nests.

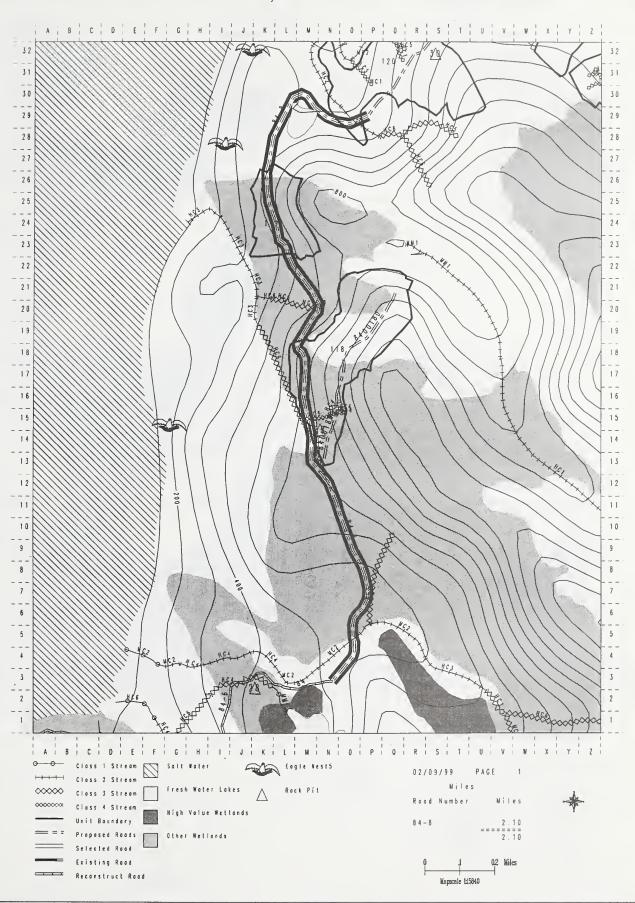
Visual/Recreation:

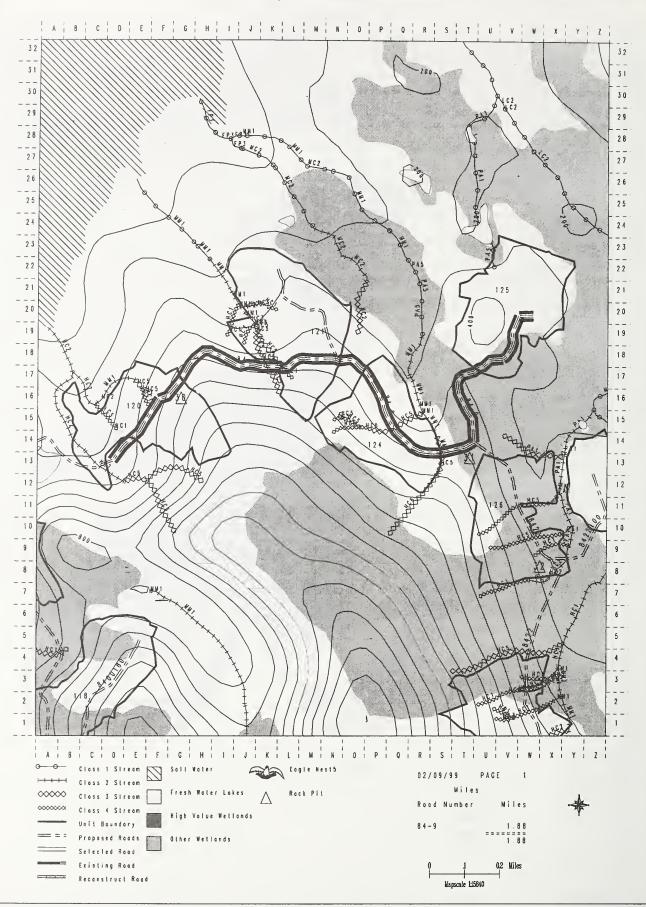
Cultural:

Stream Crossings

Road No. 8400000-8 and -9

- A.) M.P. 0.06 AHMU Class II Channel Type: MM2BF Width: 11m BF Depth: 0.5m Substrate: cobble/bedrock Gradient: 2 to 4% Structure: Bridge Passage Req'd.- Yes Timing Dates not required Narrative: Stream surveys conducted in 1996 verified the presence of resident salmonids throughout this stream. Due to the size of this stream, a bridge is required for this crossing to ensure proper drainage and passage. No timing restrictions are required for instream activities for this crossing due to the distance (½ mile) from downstream anadromous-fish habitat.
- **B.) M.P.** 0.97 AHMU Class III Channel Type: HC6 BF Width: 2-3m BF Depth: .35 Substrate: cobble/bedrock Gradient: 35% Structure: 1,500 mm cmp Passage Req'd.- no Timing Dates not required Narrative:
- C.) M.P. 1.05 AHMU Class IV Channel Type:HC5 BF Width: 1.5m BF Depth: .15 Substrate: cobble/sand Gradient: 25% Structure: 600 mm cmp Passage Req'd.- no Timing Dates- not required Narrative:
- D.) M.P. 1.35 AHMU Class III/II Channel Type: HC6/MM1 BF Width: 8m BF Depth: .70 Substrate: cobble/gravel Gradient: 20% Structure: Bridge Passage Req'd.- no Timing Dates not required Narrative: No passage at this streamcrossing is required due to the presence of a 40-foot falls located 30 feet below the proposed crossing. Due to the size of this streamcrossing, recommend installing a bridge to ensure proper drainage.
- E.) M.P. 2.03 AHMU Class II Channel Type:HC2 BF Width: 2.5 m BF Depth: .40 Substrate: cobble/gravel Gradient: 3% Structure: 2,100 mm cmp Passage Req'd.- Yes Timing Dates- not required Narrative: Resident fish (cutthroat, dolly varden) are present throughout this stream. Fish timing restrictions for instream road construction activities are not required due to the absence of anadromous-fish habitat downstream. Recommend installing a oversized cmp and counter-sinking pipe to guarantee fish passage.
- F.) M.P. 2.54 AHMU Class III Channel Type: III BF Width: 3m BF Depth: .25 Substrate: cobble/bedrock Gradient: 25% Structure: 1,200 mm cmp Passage Req'd.- no Timing Dates- not required Narrative:
- G.) M.P. 2.67 AHMU Class IV Channel Type: HCl BF Width: 1m BF Depth: .15 Substrate: cobble/sand Gradient: 25% Structure: 600 mm cmp Passage Req'd.- no Timing Dates- not required Narrative:
- H.) M.P. 3.06 AHMU Class III Channel Type: HC5 BF Width: 5m BF Depth: .30 Substrate: bedrock Gradient: 25% Structure: 2,400 mm cmp or bridge Passage Req'd.- no Timing Dates- not required Narrative:
- I.) M.P. 3.26 AHMU Class III Channel Type: HC5 BF Width: 5m BF Depth: .35 Substrate: cobble/gravel Gradient: 20% Structure: 2,100 mm cmp Passage Req'd.-no Timing Dates- not required Narrative:





Project/EIS Sea Level Route Number 8400180		Route Na Shorty			TM Status	Designation nstruction	
Begin M.P. 0.00	L	ength 0.58		gin Termini 0.00		End Termini 0.58	
		General	Design Cri	teria and E	<u>Clements</u>		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
Intended Purpose	e/Future Use:						
Silvicult	ural activities						
		Ma	intenance (<u>Criteria</u>			
Operational Ma	aintenance Leve	2		Objectiv	e Maintenano	ce Level	1
Maintenance Nar	rative:						
Highway Safety	Act: No	O Jurisdiction:	peration Cı National Fore		AFI	RPR Status: cl	losed
Travel Managem	ent Strategies:						
1	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers, Bicycle N/A N/A N/A	s, ORV's				
Travel Managem grass-seed entire r terminal.	ent Narrative: oadway. This ro	Remove all draina ad system is not co	ge structures u	pon completic y public or co	on of silvicultu mmunity road	ral activities. V system or to an	Water-bar and y ferry system
District Ranger A	Approval (signat	ure)			Date:_		· · · · · · · · · · · · · · · · · · ·

Site Specific Design Criteria

Road No. 8400180

Road Location: Road accesses Unit 118. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.32) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource	Information	(if	applica	ble):
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Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

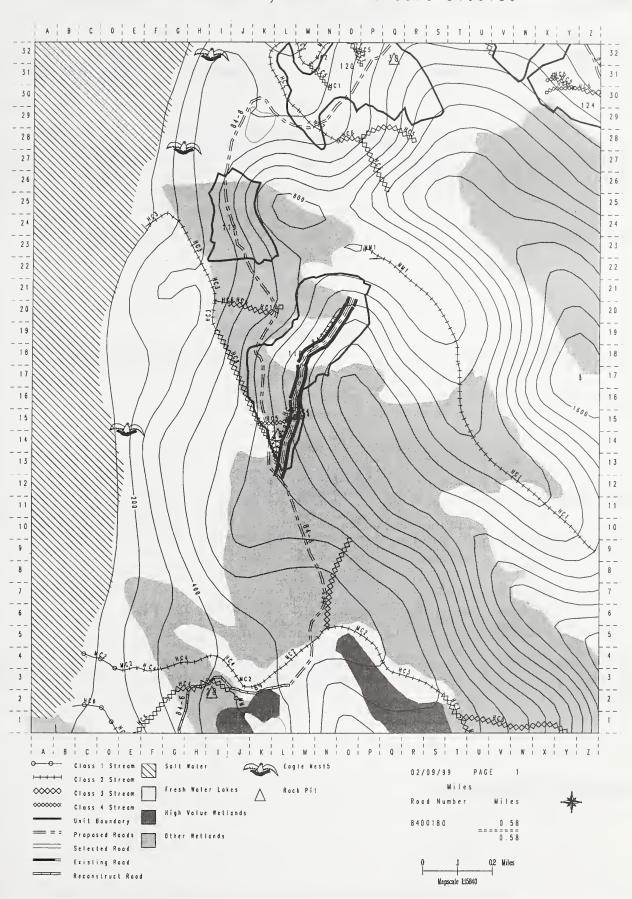
Wildlife: Southern end of road is within ½ mile of bald eagle nest.

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM **Route Name** Route Number Status 8400190 Beach New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.36 0.00 0.36 General Design Criteria and Elements Functional Service Traffic Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed **Travel Management Strategies:** Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system

terminal.

District Ranger Approval (signature) Date:

Site Specific Design Criteria

Road No. 8400190

Road Location: Road accesses Unit 121. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing for eagle nests may be applicable.

Resource Information	(if appli	cable):
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Timber/Logging	g Systems:
Soils/Water:	

Silviculture:

Lands/Minerals/Geology/Karst:

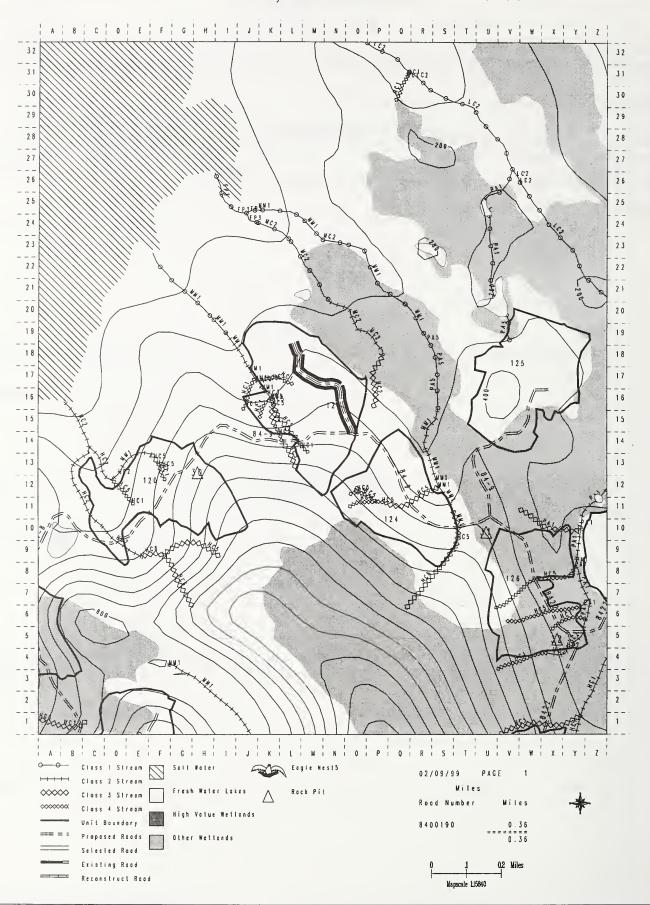
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Project/EIS		System Land Use Designation					
Sea Level		Revil	a Island	and TM			
Route Number	er	Route Na	ime	Status			
8400260					New co	onstruction	
Begin M.P.		Length	Be	gin Termini		End Termini	
0.00		0.55		0.00		0.55	
		General	Design Cri	teria and	Elements		
Functional Class	Service Life	Traffic Service Level	Surface	Width	Critical Vehicle	Design Vehicle	Design Speed
L	LI	D	Rock	14	Log Truck	Log truck	10
Intended Purpo	ose/Future Use:						
	ltural activities						
		Ma	intenance C	'ritoria			
			intenance C				
Operational N	Aaintenance Le	vel 2		O	bjective Main	tenance Level	1
Maintenance N	arrative:						
		0	peration Cr	itorio			
W.) O. C.					A 1531	DDD Co. 4	,
Highway Safe	ty Act: No	Jurisdiction:	National Fores	st Ownership) AF	RPR Status: cl	osed
Travel Manage	ment Strategies	:					
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	s, ORV's				
	Discourage:	N/A					
	Prohibit: Eliminate:	N/A N/A					
	Eliminate.	19/24					
Travel Manager	ment Narrative:	Remove all draina	ge structures up	oon completi	on of silvicultu	ıral activities. V	Vater-bar and
terminal.	roadway. This	road system is not co	nmected to any	public or co	mmunity road	system or to an	y terry system
		,					
District Ranger	Approval (sign	ature)			Date:		
get	PF- o .mr (orgn						

Appendix 2—Road Cards ■ Page 63 of 161

Sea Level ROD

Site Specific Design Criteria

Road No. 8400260

Road Location: Road accesses Unit 41. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource	Information	(if ap	oplicab	le)):
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mm * .	· /T		C .
11122	har/f	COLLO	Syctome
	DCI/IA	שווועעו	Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.50 AHMU: Class IV Channel Type: HC5 BF Width: 1.0 m BF Depth: 10 cm Substrate: sand/gravel Gradient: 30% Structure: 450 mm cmp Passage Required: none Timing Dates: none Narrative:



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Number **Route Name** Status 8400280 View New construction and reconstruction Begin M.P. Length Begin Termini **End Termini** 0.00 1.28 0.00 1.28 **General Design Criteria and Elements** Functional Service Traffic Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities **Maintenance Criteria Operational Maintenance Level** 2 Objective Maintenance Level Maintenance Narrative: **Operation Criteria** Highway Safety Act: No Jurisdiction: National Forest Ownership AFRPR Status: closed **Travel Management Strategies:** N/A Encourage: Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and

grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature) Date:_

Site Specific Design Criteria

Road No. 8400280

Road Location: Road accesses Unit 44. Road construction should be moderate to easy over most portions of the road. Only 0.25 miles of new construction, road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

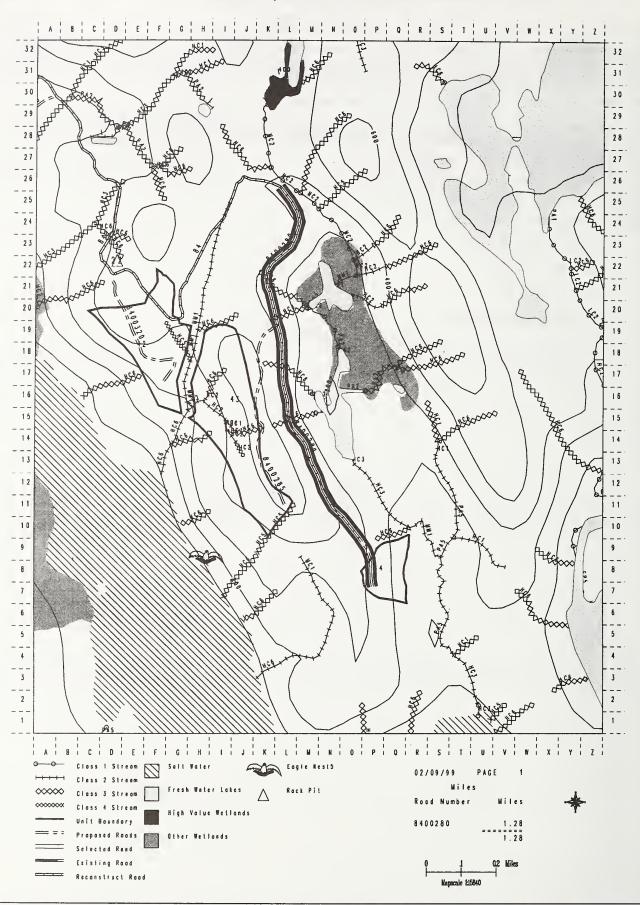
Wildlife: Road is within ½ miles of a bald eagle nest.

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this new road location. Existing road has structures to be replaced, all class III streams.



Project/EIS		System	Land Use Designation					
Sea Level		Revilla Island			TM			
Route Number		Route Name			Status			
8400285		View	D	• mn	New co	nstruction		
Begin M.P.		Length 0.57	Ве	egin Termini 0.00		End Termini 0.57		
0.00		0.57		0.00		0.57		
		General	Design Cri	iteria and I	Elements			
Functional	Service	Traffic	Surface	Width	Critical	Design	Design	
Class	Life	Service Level	~ 1	1.4	Vehicle	Vehicle	Speed	
L	LI	D	Rock	14	Log Truck	Log truck	10	
Intended Purpos	e/Future Use:							
Silvicult	ural activities							
		Ma	intenance (Criteria				
Operational Ma	aintenance Les				Iaintenance L	evel l		
operational wi	annechance De			Objective iv	ramenance D	i i		
Maintenance Nai	rative:							
		0	manatian Co	.i4a.uia				
			peration Cr					
Highway Safety	Act: No	Jurisdiction:	National Fore	st Ownership	AFF	RPR Status: cl	losed	
Travel Managem	ent Strategies:	:						
	Encourage:	N/A						
	Accept:	Hikers, Bicycle	s, ORV's					
	Discourage: Prohibit:	N/A N/A						
	Eliminate:	N/A						
Travel Managem grass-seed entire r terminal.	ent Narrative: oadway. This	Remove all drainage oad system is not co	ge structures u onnected to any	pon completion y public or con	on of silvicultu mmunity road	ral activities. V system or to an	Water-bar and y ferry system	
District Ranger Approval (signature)				Date:				

Appendix 2—Road Cards ■ Page 69 of 161

Sea Level ROD

Site Specific Design Criteria

Road No. 8400285

Road Location: Road accesses Unit 43. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

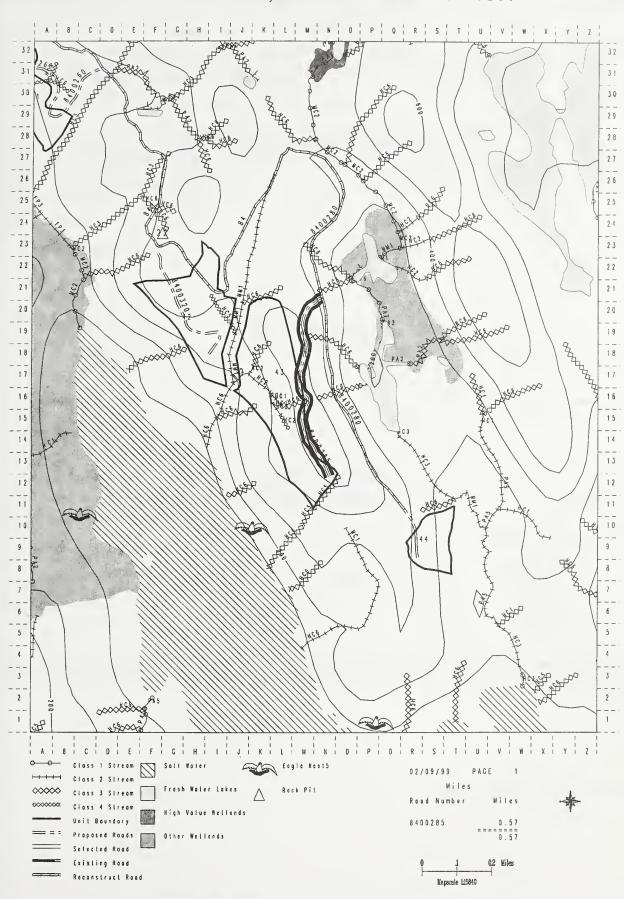
Wildlife: Road is within ½ miles of a bald eagle nest.

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Revilla Island Sea Level TM Route Number Route Name Status 8400320 View II New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.40 0.00 0.40 General Design Criteria and Elements **Functional** Service Traffic Surface Width Critical Design Design Service Level Class Life Vehicle Vehicle Speed LI L D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities Maintenance Criteria **Operational Maintenance Level** 2 Objective Maintenance Level **Maintenance Narrative: Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed **Travel Management Strategies:** Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and

grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

Site Specific Design Criteria

Road No. 8400320

Road Location: Road accesses Unit 42. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Timber/Loggin	g Systems:
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Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

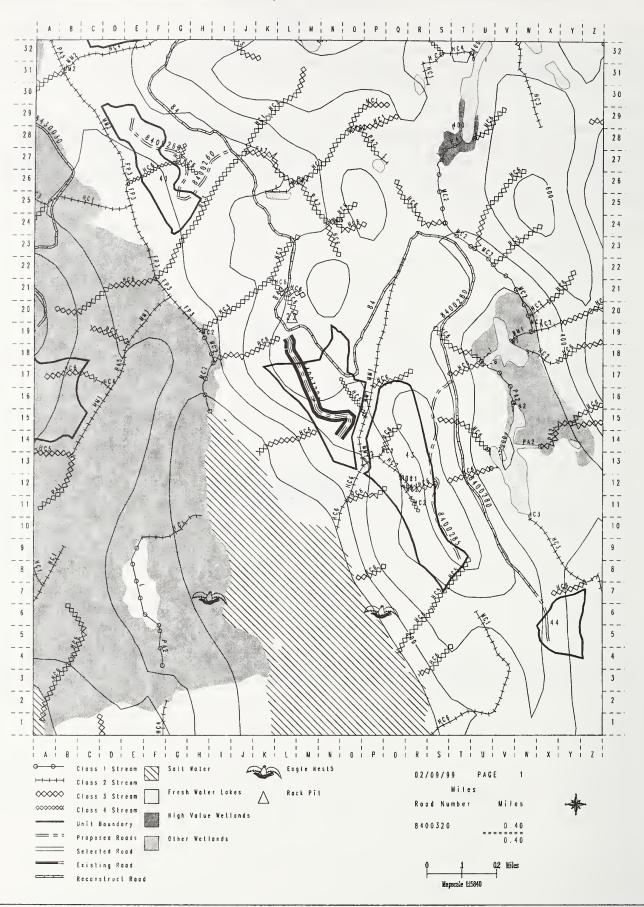
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Number Route Name Status 8400340 Lake New construction Begin M.P. Length Begin Termini End Termini 0.00 0.70 0.00 0.70 **General Design Criteria and Elements** Service Traffic Surface Width **Functional** Critical Design Design Class Life Service Level Vehicle Vehicle Speed LI Rock 14 L D Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria **Operational Maintenance Level** 2 Objective Maintenance Level Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

Site Specific Design Criteria

Road No. 8400340

Road Location: Road accesses Unit 40. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information (if applicable):

- I	CT		0 .	
Limber	r/I o	againa	Systems	
I IIIIOCI		EE IIIE	Dystems	٠.

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.25 AHMU: Class III Channel Type: HC5 BF Width: 1.5m BF Depth: 10cm Substrate: cobble/bedrock

Gradient: 25% Structure: 600 mm cmp Passage Req'd.: none Timing Dates: none

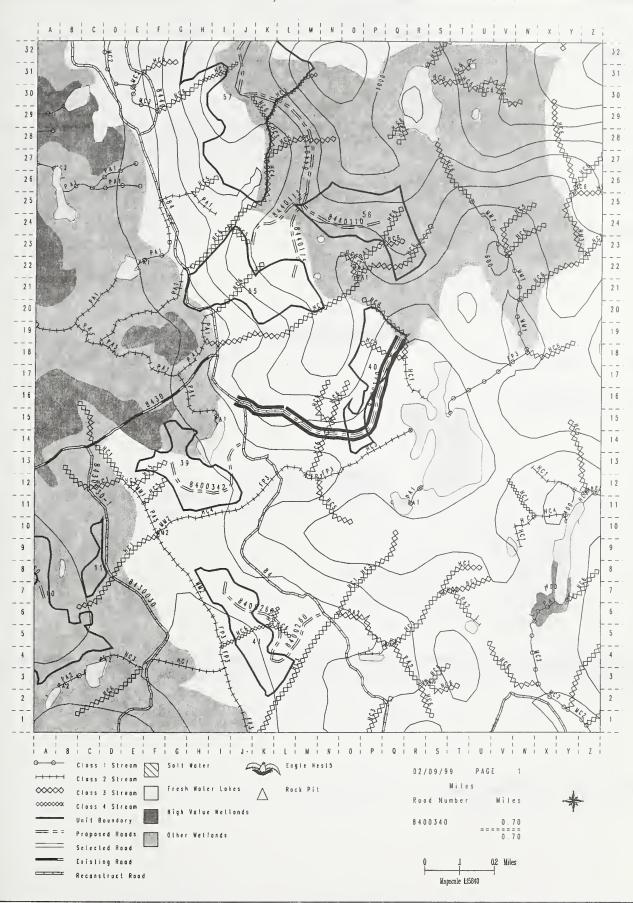
Narrative:

B.) M.P. 0.61 AHMU: Class III Channel Type: HC5 BF Width: 2.0m BF Depth: 15cmSubstrate: bedrock/cobble

Gradient: 20% Structure: 1,200 mm cmp Passage Req'd.: none Timing Dates: none

Narrative:

Sea Level Study Area Road Card 8400340



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Name Route Number Status 8400342 Pond New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.37 0.00 0.37 General Design Criteria and Elements Functional Service Traffic Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed L H D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities Maintenance Criteria **Operational Maintenance Level** 2 **Objective Maintenance Level** 1 **Maintenance Narrative: Operation Criteria Highway Safety Act:** Jurisdiction: National Forest Ownership AFRPR Status: closed No Travel Management Strategies: Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)

Date:

Site Specific Design Criteria

Road No. 8400342

Road Location: Road accesses Unit 39. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: There are no designated wetlands on this road location.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource	Information	(if applicable):
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Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

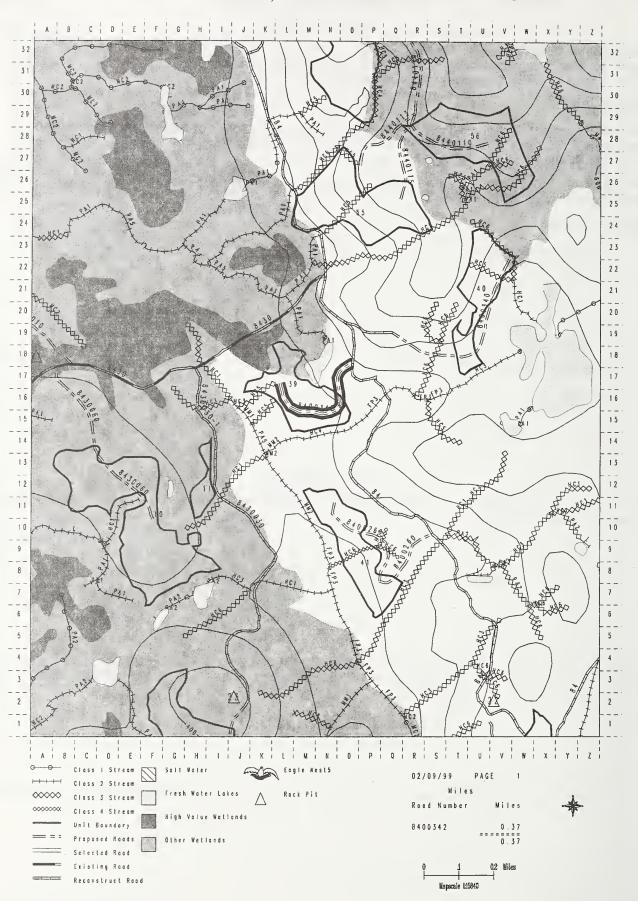
Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Card 8400342



Review Revilla Island TM
Route Name Status New construction
Regin M.P. Length Begin Termini End Termini 0.00 0.62 0.10 0.72
Begin M.P. 0.00 0.62 Ceneral Design Criteria and Elements Functional Service Life Service Level L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
General Design Criteria and Elements Functional Service Traffic Surface Width Critical Vehicle Vehicle Lu LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Functional Service Traffic Surface Width Critical Design Design Vehicle Life Service Level Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Functional Service Traffic Surface Width Critical Design Vehicle Life Service Level D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Functional Service Traffic Surface Width Critical Design Vehicle Life Service Level D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Class Life Service Level Vehicle Vehicle Log truck Log truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Class Life Service Level Vehicle Log Truck Vehicle Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Silvicultural activities Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Maintenance Criteria Operational Maintenance Level 2 Objective Maintenance Level 1
Operational Maintenance Level 2 Objective Maintenance Level 1
Operational Maintenance Level 2 Objective Maintenance Level 1
Operational Maintenance Level 2 Objective Maintenance Level 1
Operational Maintenance Level 2 Objective Maintenance Level 1
Operational Maintenance Level 2 Objective Maintenance Level 1
Maintenance Narrative:
Maintenance Narrative:
Operation Criteria
Highway Safety Act: No Jurisdiction: National Forest Ownership AFRPR Status: closed
riginary surely river to our sureless of the sureless of sureless
Travel Management Strategies:
Encourage: N/A
Accept: Hikers, Bicycles, ORV's
Discourage: N/A Prohibit: N/A
Prohibit: N/A Eliminate: N/A
Diffinate. 1971
Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and
grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system
terminal.
District Pangar Annuaval (signature)
District Ranger Approval (signature)Date:
Sea Level ROD Appendix 2—Road Cards ■ Page 81 of 16

Site Specific Design Criteria

Road No. 8400425

Road Location: Road accesses Unit 1. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.10) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information (if applicable):

Timber/Logging Systems	:
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Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Road is within ½ miles of a bald eagle nest, timing applies to blasting.

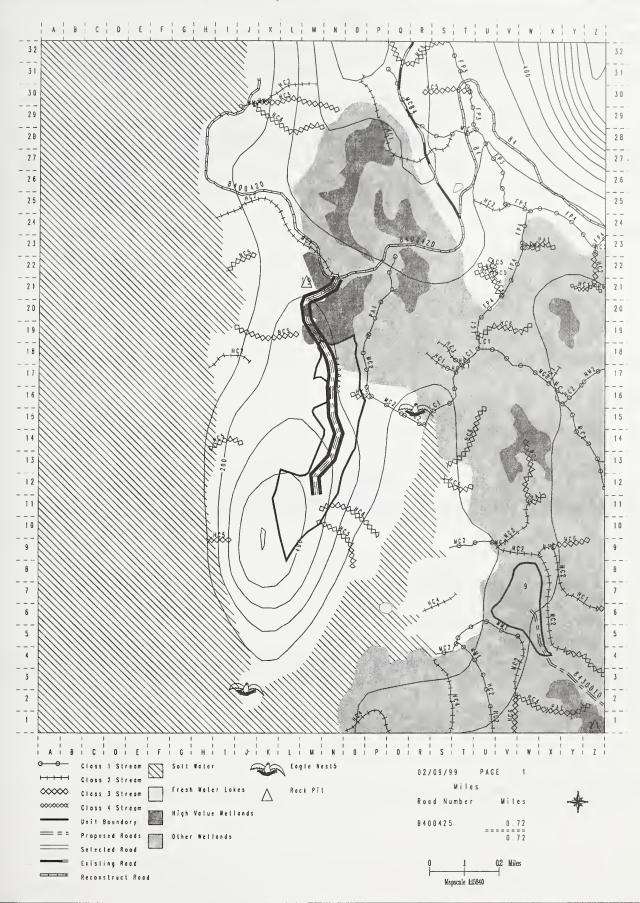
Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Card 8400425



Road Management Objectives Land Use Designation Project/EIS System Revilla Island TM Sea Level **Route Name** Route Number Status 8400480 Ridge New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.70 0.00 0.70 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Service Level Vehicle Vehicle Class Life Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 Operational Maintenance Level **Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria** Jurisdiction: National Forest Ownership AFRPR Status: closed **Highway Safety Act:** No Travel Management Strategies: Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_

Date:

Site Specific Design Criteria

Road No. 8400480

Road Location: Road accesses Unit 80. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.12) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Timing for eagle fiests may be applicable.		
Resource Information (if applicable):		

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

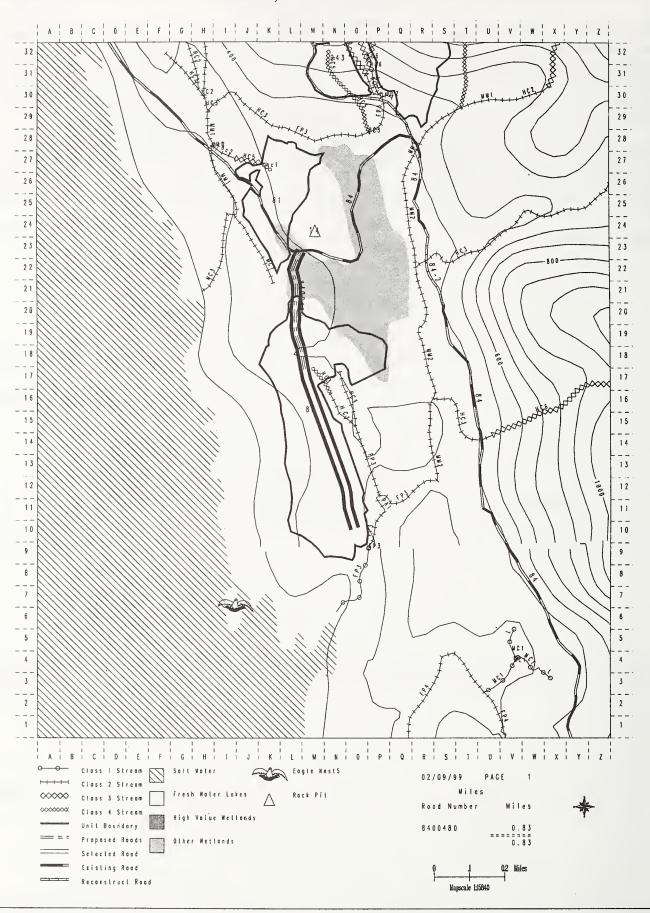
Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Card 8400480



Project/EIS		System			Land Use	Designation	
Sea Level		Revilla	Revilla Island		TM		
Route Number	r	Route Na	Status				
8410000		Walk		New construction			
Begin M.P.	I.	ength	Ве	egin Termini		End Termini	
0.00		0.75		0.00		0.75	
		General	Design Cr	iteria and l	Elements		
Functional	Service	Traffic	Surface	Width	Critical	Design	Design
Class	Life	Service Level			Vehicle	Vehicle	Speed
L	LI	D	Rock	14	Log Truck	Log truck	10
Intended Purpo	se/Future Use:						
Silvicul	tural activities						
		Ma	intenance (<u>Criteria</u>			
Operational N	laintenance Leve	el 2		Ohie	ctive Mainten	ance Level	1
Operational II				Obje	ctive iviaintes	iance Bever	
Maintenance Na	rrativa						
Maintenance Na	irrative.						
		<u>O</u> 1	peration C	<u>riteria</u>			
Highway Safe	ty Act: No	Jurisdiction:	National Fore	est Ownership	AF	RPR Status: cl	osed
Travel Managei	ment Strategies:						
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	s, ORV's				
	Discourage:	N/A					
	Prohibit:	N/A					
	Eliminate:	N/A					
		Remove all drainage ad system is not co					
terminal.	Toadway. This ic	ad system is not ec	infected to at	ry public of co	minumity roac	i system of to an	y icity system
					_		
District Ranger	Approval (signa	ture)			Date:		

Appendix 2—Road Cards ■ Page 87 of 161

Sea Level ROD

Site Specific Design Criteria

Road No. 8410000

Road Location: Road accesses Unit 143. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information	(if	applicable)):
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Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

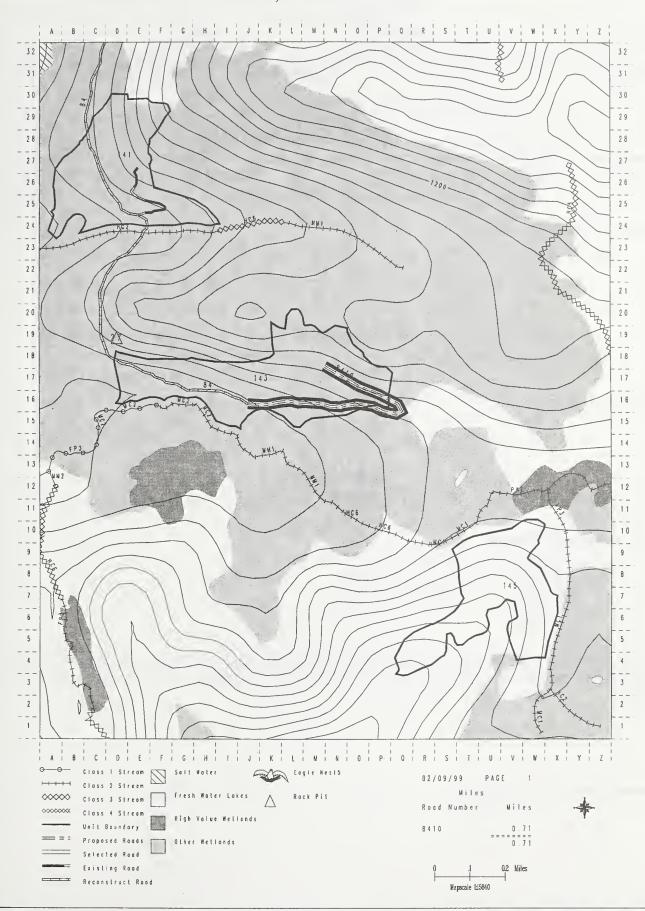
Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Cord 8410



			- 6				
Project/EIS		System			Land Use I	Designation	
Sea Level	Revilla Island			TM	9		
Route Number		Route Name Status			Status		
8422000		Upper	Sealevel		New con	nstruction	
Begin M.P.		Length	`Be	gin Termini		End Termini	
0.00		1.65		0.00		1.65	
		General	Design Cri	teria and l	<u>Elements</u>		
Functional	Service	Traffic	Surface	Width	Critical	Design	Design
Class	Life	Service Level			Vehicle	Vehicle	Speed
L	LI	D	Rock	14	Log Truck	Log truck	10
T. A d. d. Danner	o a (Tiendania a Tiendania						
Intended Purpos							
Silvicult	ural activities						
		Ma	intenance (Criteria			
On such and M	Taimtamamaa T				N/ - 2 - 4	T 1	
Operational M	iaintenance 1	Level 2		Objectiv	e Maintenance	Level	1
Maintenance Na							
Maintenance Na	irrative:						
		<u>o</u>	peration C	<u>riteria</u>			
Highway Safet	v Act: No		_		AFI	RPR Status: c	losed
	<i>J</i> = = = = = = = = = = = = = = = = = = =			р			
Travel Managen	nent Strategi	es:					
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	es, ORV's				
	Discourage:	N/A					
	Prohibit: Eliminate:	N/A			4.6		
	Elillimate:	N/A					
Tuoval Managar	mont Monnativ	va. Damava all draine	a atministration	man aamnlat	ion of cilvioultu	mal activities	Water har and
		ve: Remove all draina is road system is not c					
District Ranger	Approval (si	gnature)			Date:_		

Site Specific Design Criteria

Road No. 8422000

Road Location: Road accesses Units 126, 133, and 134. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.80) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information (if applicable):

Timber/Logging	Systems:
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Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Avoid Sensitive Plants near road alignment (see resource report).

Visual/Recreation:

Cultural:

Stream Crossings

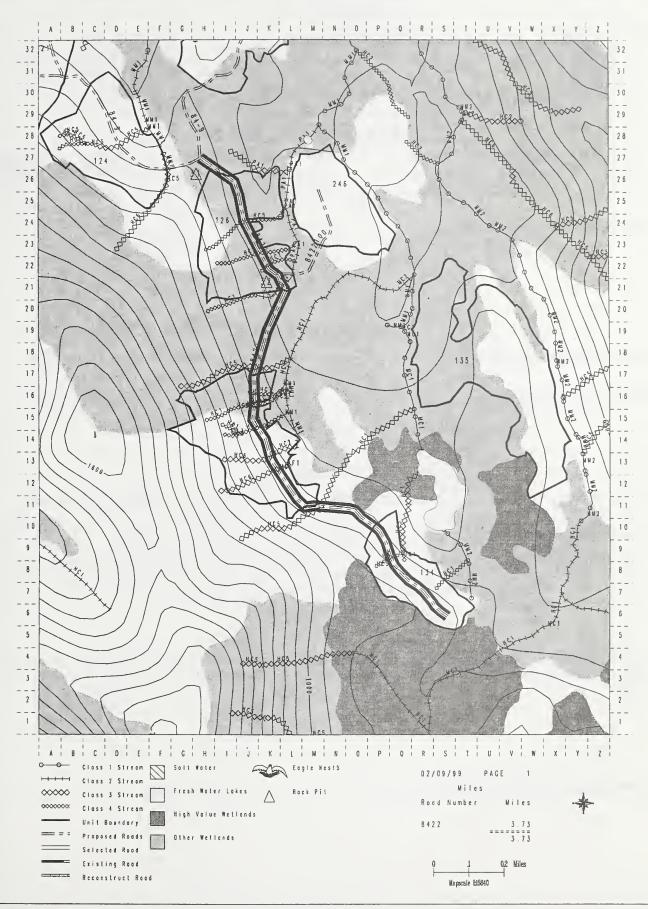
Road No. 8422000

- A.) M.P. 0.25 AHMU Class IV Channel Type: HC5BF Width: 1.5mBF Depth: 25cmSubstrate: cobble/bedrock Gradient: 35% Structure: 1,200 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- B.) M.P. 0.31 AHMU Class IV Channel Type: HC5 BF Width: 2m BF Depth: 15cmSubstrate: bedrock/cobble Gradient: 20% Structure: 1,200 mm cmp Passage Req'd. none Timing Dates

 Narrative:
- C.) M.P. 0.34 AHMU Class IV Channel Type: HCl BF Width: 1.0m BF Depth: 12cmSubstrate: cobble/gravel Gradient: 15% Structure: 600 mm cmp Passage Req'd. none Timing Dates

 Narrative:
- D.) M.P. 0.48 AHMU Class III Channel Type:HC5 BF Width: 1.5m BF Depth: 15cmSubstrate: gravel/cobble Gradient: 12% Structure: 900 mm cmp Passage Req'd.: none Timing Dates: none Narrative: Fish habitat is present downstream of this crossing but passage will not be required due to a bedrock waterfall present 20m upstream of the crossing.
- E.) M.P. 0.62 AHMU Class III Channel Type: HC5 BF Width: 3m BF Depth: 20cm Substrate: bedrock Gradient: 35% Structure: 1,500 mm cmp Passage Req'd.: none Narrative:
- F.) M.P. 0.68 AHMU Class IV Channel Type: HC1 BF Width: 0.5m BF Depth: 10cm Substrate: gravel/bedrock Gradient: 9% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- G.) M.P. 0.69 AHMU Class III Channel Type: HC6 BF Width: 3m BF Depth: 20cmSubstrate: bedrock/cobble Gradient: 20% Structure: 1,500 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- H.) M.P. 0.74 AHMU Class IV Channel Type: HC5 BF Width: 1.5m BF Depth: 8cm Substrate: cobble/bedrock Gradient: 20% Structure: 600 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- I.)M.P. 0.80 AHMU Class III Channel Type: HC2 BF Width: 2.5m BF Depth: 10cm Substrate: cobble/bedrock Gradient: 13% Structure: 1,500 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- J.) M.P. 0.85 AHMU Class III Channel Type: HC2 BF Width: 6m BF Depth: 20cmSubstrate: cobble/gravel Gradient: 10% Structure: Logstringer Passage Req'd.: none Timing Dates: none Narrative: Due to the size of this streamcrossing, recommend a logstringer instead of a culvert to ensure proper drainage.
- K.) M.P. 1.03 AHMU Class III Channel Type: HC2 BF Width: 5.2m BF Depth: 15cmSubstrate: cobble/gravel Gradient: 12% Structure: Logstringer Passage Req'd.: none Timing Dates: none Narrative: Due to the size of this streamcrossing, recommend a logstringer versus a culvert to ensure proper drainage.
- L.) M.P. 1.25 AHMU Class IV Channel Type: HC5 BF Width: 1m BF Depth: 8cm Substrate: cobble/gravel Gradient: 14% Structure: 600 mm cmp Passage Req'd.: none Timing Dates: none Narrative:

Seo Level Study Areo Rood Cord 8422



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM **Route Name** Route Number Status Flats 8422100 New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.39 0.00 0.39 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Service Level Class Life Vehicle Vehicle Speed LI D Rock 14 Log Truck L Log truck 10 Intended Purpose/Future Use: Silvicultural activities **Maintenance Criteria Operational Maintenance Level** 2 **Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed **Travel Management Strategies:** Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A

Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)	Date:

Site Specific Design Criteria

Road No. 8422100

Road Location: Road accesses Unit 246. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.25) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

n	T C	/·c		
Resource	Information ((11 app)	licable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

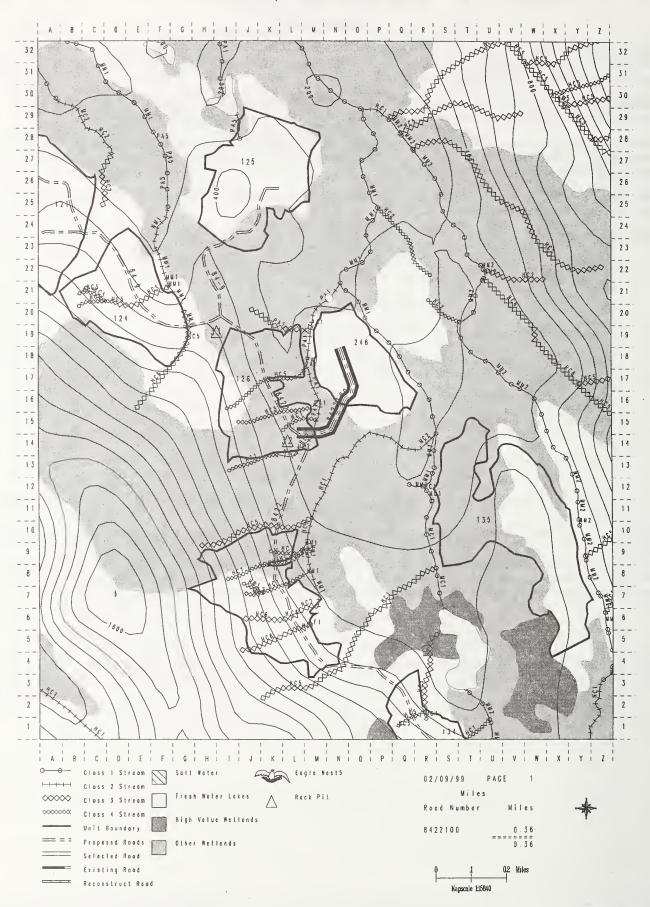
Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.13 AHMU Class II Channel Type: MM1 BF Width: 2.0 m BF Depth: 15 cmSubstrate: gravel/cobble Gradient: 5% Structure: 1,500 mm cmp Passage Required: Yes Timing Dates: none Narrative: Field reconnaissance completed in 1998 verified the presence of resident cutthroat above and below this stream-crossing. Fish passage is required and it is recommended that an oversized counter-sunk culvert be placed to provide passage. Also, if possible, recommend an alternate route be identified to avoid this streamcrossing.

Sea Level Study Area Road Card 8422100



Project/EIS		System			Land Use I	Designation	
Sea Level		Revilla Island TM					
Route Number	er	Route Name Status					
8430000-1	, -2, and -3				Reconst	ruction	
Begin M.P.			End Termini				
0.00		11.00		0.00		11.00	
		Genera	Design Cri	iteria and l	Elements		
Functional	Service	Traffic	Surface	Width	Critical	Design	Design
Class	Life	Service Level			Vehicle	Vehicle	Speed
L	LI	D	Rock	14	Log Truck	Log truck	10
Intended Purpo							
Silvicu	ltural activities						
		M.	•4	O-141			
		<u>1V12</u>	intenance (Criteria			
Operational N	Maintenance Le	vel 2		Objective	Maintenance	Level	1
Maintenance N	arrative:						
		0	peration C	riteria			
Highway Safe	ety Act: No	Jurisdiction:	National Fore	est Ownership) AFI	RPR Status: i	nactive
Travel Manage	ment Strategies	:					
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	es, ORV's				
	Discourage:	N/A					
	Prohibit: Eliminate:	N/A N/A					
	Eliminate.	IN/A					
m 134		36.			. 1		
		: Maintain road for munity or public ro					ities. Road
system not com	ceted to any con	infamity of paorie to	ad system. 140	significant u	arric anticipate	d.	
District Ranger	Approval (sign	iature)			Date:		

Site Specific Design Criteria

Road No. 8430000-1, -2, and -3

Road Location: Existing road. Work consists of fish-passage pipe repair and removal in some cases. Portions of road will be closed by removal of all CMPs. Included in the closure of the road will be the closure of all roads tributary to the closed portion.

Wetlands: Existing road, footprint of road will not change.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

TD11	. /T	•	0
Limb	er/Lo	gging	Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

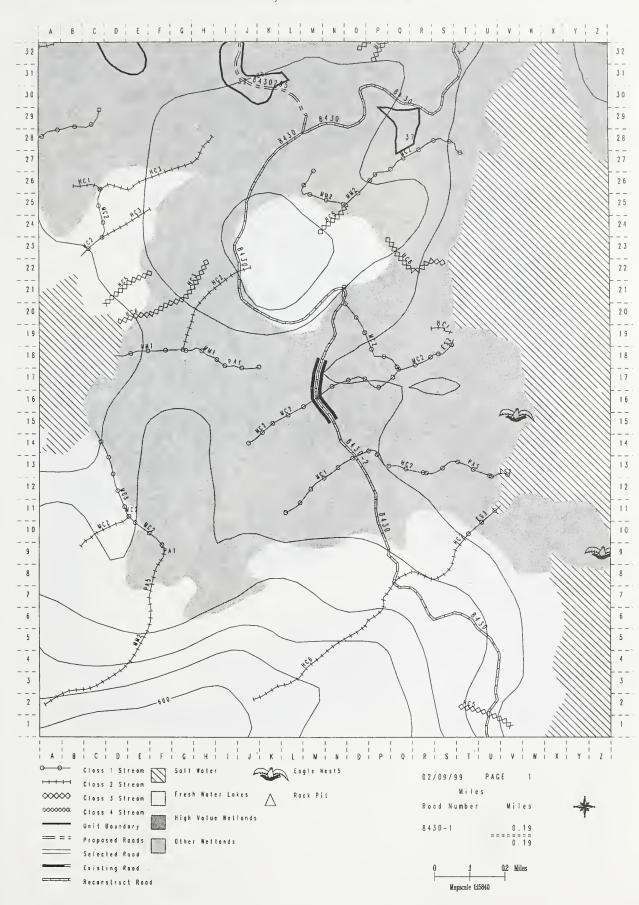
Cultural:

Stream Crossings

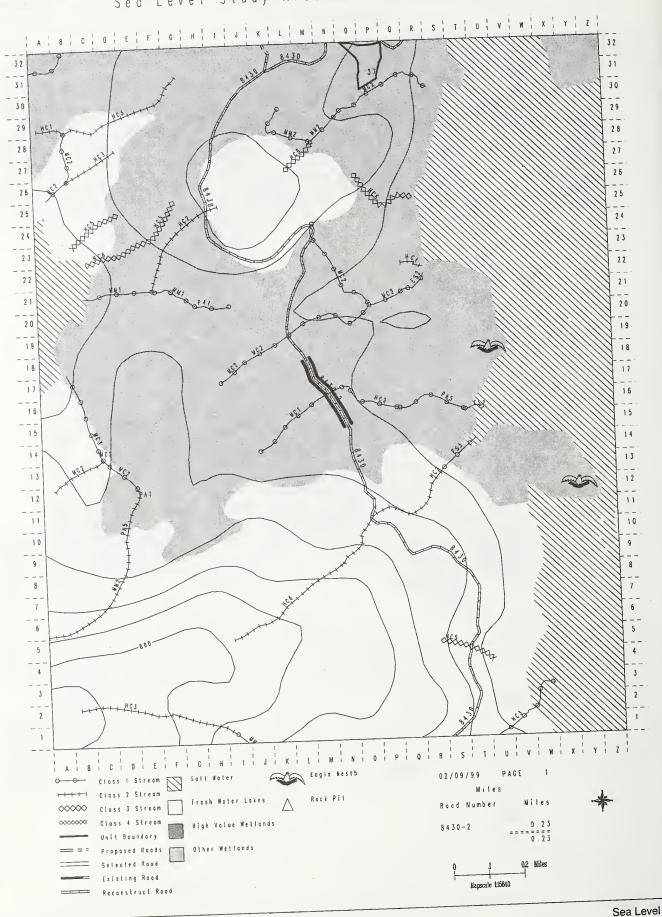
- A.) M.P. 6.73 AHMU Class II Channel Type: MC2 BF Width: 2m BF Depth: 35 Substrate: gravel/bedrock Gradient: 3 to 6% Structure: 1,500 mm cmp Passage Req'd.: yes Timing Dates: no Narrative: This streamcrossing was identified during culvert inspections as having potential failure due to beaver activity present above and below the existing road. If culvert failure is present, replacement with another culvert will be implemented. Due to the presence of resident fish above and below the crossing, fish passage is required if culvert replacement is required.
- **B.)** M.P. 6.84 AHMU Class II Channel Type: HC2BF Width: 2.5 BF Depth: 30 Substrate: cobble/gravel Gradient: 3 to 5% Structure: 1,800 mm cmp Passage Req'd.: Yes Timing Dates: June 15 to September 1 Narrative: This streamcrossing was identified during culvert inspections has having fish-passage failures due to a 1.3 foot perching at the outlet of this culvert. Replacement of this culvert is tentatively scheduled for 1999. Timing restrictions for the replacement of this culvert are required due Class I coho habitat downstream.
- B.) M.P. 8.11 to 13.18 AHMU Class II/III Channel Type: -- BF Width: -- BF Depth: --- Substrate: Gradient ---- % Structure: ----- Passage Req'd.: ----- Timing Dates:

 Narrative: Road condition surveys conducted in 1997 identified extensive road failures and three streamcrossing that were failing to provide fish passage due to perching and culvert damage. This road segment and the three lateral spurs are scheduled for storm-proofing in 1999/2000. Storm-proofing will include removal of all drainage structures on those road segments and stabilization of all cut banks and side cast.

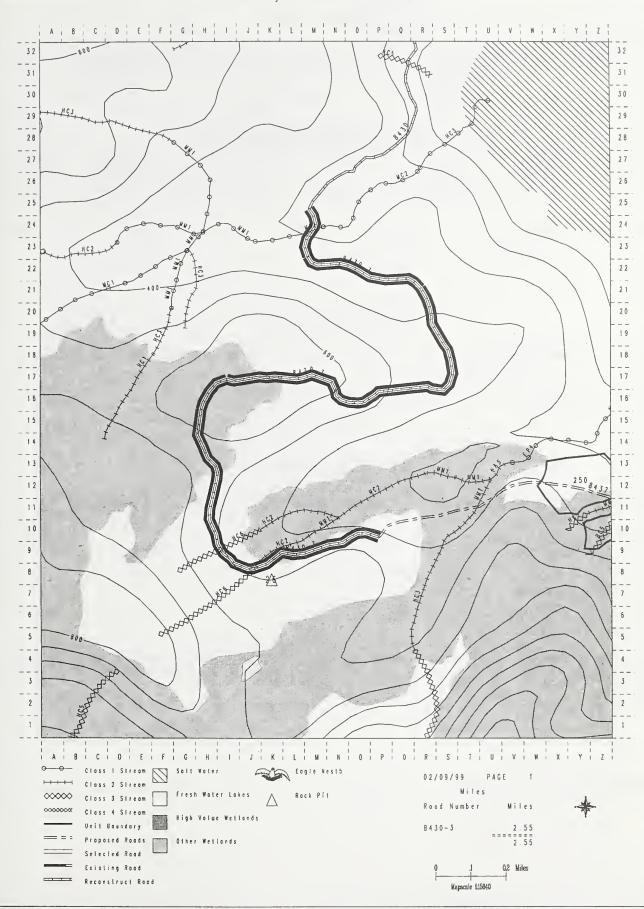
Sea Level Study Area Road Card 8430-1



Sea Level Study Area Road Card 8430-2



Sea Level Study Area Road Card 8430-3



Road Management Objectives Project/EIS **System** Land Use Designation Sea Level Revilla Island TM **Route Number Route Name** Status 8430010 Easy New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.48 0.00 0.48 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Service Level Class Life Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities **Maintenance Criteria Operational Maintenance Level** 2 **Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** Jurisdiction: National Forest Ownership No AFRPR Status: closed Travel Management Strategies: N/A Encourage: Hikers, Bicycles, ORV's Accept: Discourage: N/A N/A Prohibit: N/A Eliminate: Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_

Date:

Site Specific Design Criteria

Road No. 8430010

Road Location: Road accesses Unit 9. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Timing for eagle nests may be applicable.	
Resource Information (if applicable):	
Timber/Logging Systems:	

Soils/Water: Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

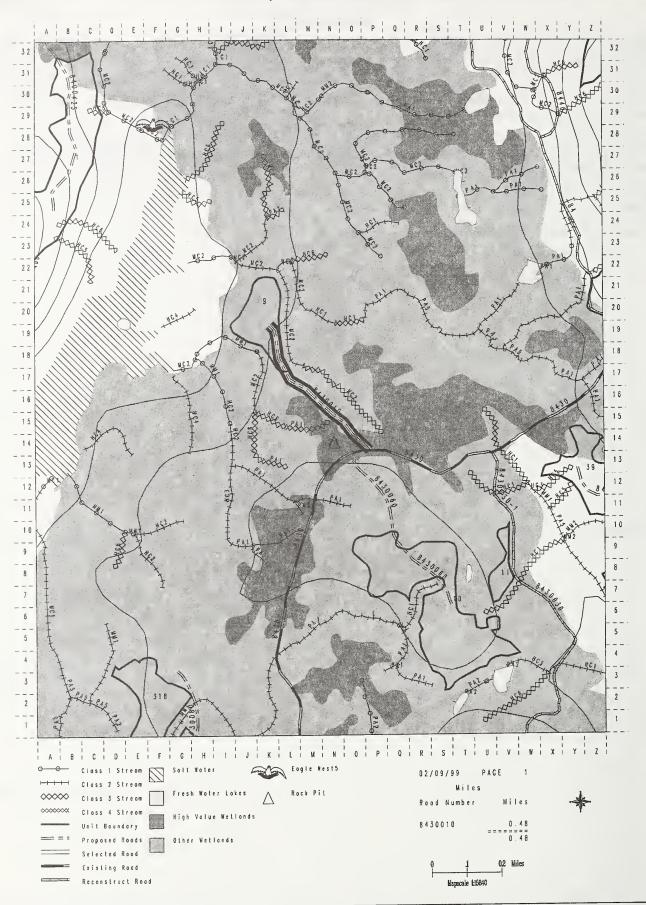
Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Card 8430010



Project/EIS Sea Level Route Number 8430030 and		System Revilla Route Na Walk	ı İsland me	Sta	and Use Design TM atus Jew constructio		uction
Begin M.P.	1	Length 1.42	В	egin Termini 0.00		End Termini 1.42	
0.00		1.42		0.00		1.42	
		General	Design Cr	iteria and	Elements		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
ntended Purpos							
Silvicult	ural activities						
		3.6	• ,				
			intenance		25.1		1
Operational M	aintenance Lev	rel 2		Objectiv	ve Maintenanc	e Level	1
Maintenance Na	rrative:						
		<u>o</u>	peration C	<u>riteria</u>			
Highway Safet	y Act: No	Jurisdiction:	National For	est Ownership) AF	RPR Status: c	losed
Travel Managen	nent Strategies:						
	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers, Bicycle N/A N/A N/A	s, ORV's				
Travel Managen grass-seed entire i erminal.	nent Narrative: roadway. This r	Remove all draina road system is not co	ge structures onnected to an	upon complet ny public or co	ion of silvicultuommunity road	aral activities. system or to ar	Water-bar and ny ferry system
District Ranger	Approval (signa	ature)			Date:		

Site Specific Design Criteria

Road No. 8430030 and section 1

Road Location: Road accesses Unit 22. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource	Informa	i tion (if	applicat	ole)	:
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CC 1 (C)		~ .
l'imbor/l	AAAINA	Stretomer
Timber/L	WAS THIS	Systems.
	-000	

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

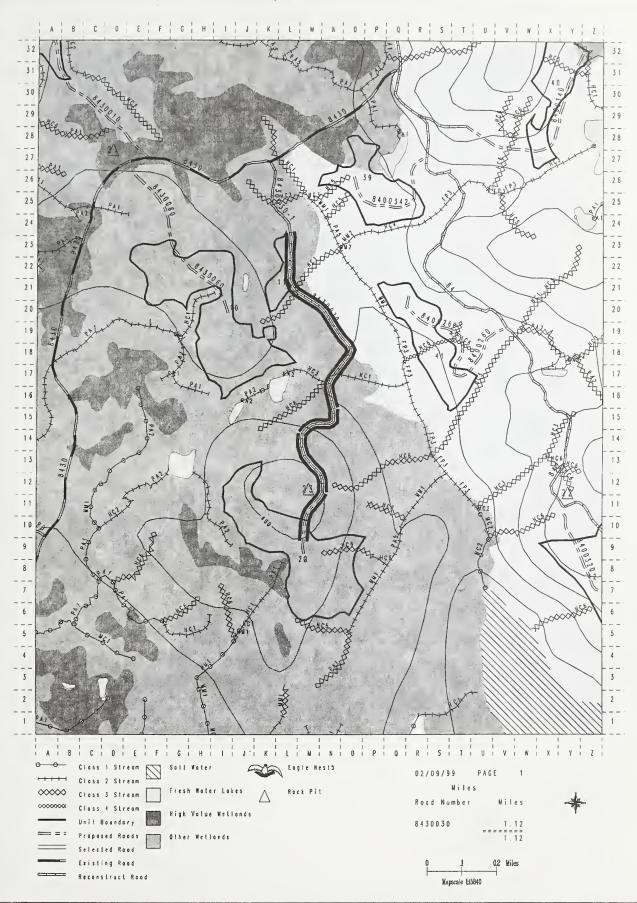
Visual/Recreation:

Cultural:

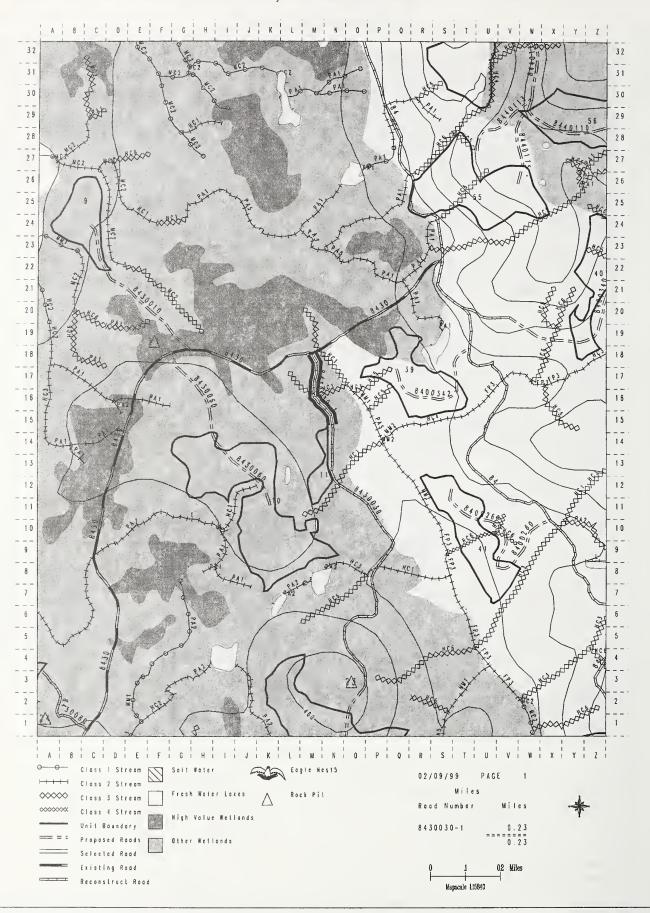
Stream Crossings

A.) M.P. 0.50 AHMU Class II Channel Type: HC2 BF Width: 1.5m BF Depth: 20cm Substrate: gravel/cobble Gradient: 4 to 8% Structure: 600 mm cmp Passage Req'd.: yes Timing Dates: none Narrative: During culvert inspections, this streamcrossing located at milepost 0.5 was identified as a fish-passage failure due to 100 percent blockage of the existing 36 inch culvert at the outlet. A reconnaissance conducted above and below the streamcrossing verified resident habitat throughout. Replacement of the existing culvert with a structure to ensure proper fish passage is scheduled for FY 1999. Timing restrictions for instream construction is not required due to the distance (< 1 mile) from downstream anadromous-fish habitat.

Sea Level Study Area Road Cord 8430030



Sea Level Study Area Road Cord 8430030-1



Project/EIS		System Land Use Designation					
Sea Level		Revill	TM				
Route Number		Route Na	Status				
8430060		Skeg		New construction			
Begin M.P.		Length	В	Begin Termini End Termini			
0.00		0.63		0.00		0.63	
0.00							
		General	Design Cr	iteria and l	Elements		
To wat have a	Coursian	Tueffie	Surface	Width	Critical	Docian	Dosign
Functional Class	Service Life	Traffic Service Level	Surface	wiatn	Vehicle	Design Vehicle	Design Speed
L	LI	D D	Rock	14	Log Truck	Log truck	10
L	21	2			6		
Intended Purpos	se/Future Use:						
Silvicult	ural activities						
		Ma	intenance (<u>Criteria</u>			
Operational M	aintenance Lev	vel 2		Objective	e Maintenance	e Level	1
Operational 21-							
Maintenance Na	rrativo.						
Maintenance iva	i i ative.						
		0					
		<u>0</u>	peration C	riteria			
Highway Safet	y Act: No	Jurisdiction:	National For	est Ownership	AF	RPR Status: c	losed
Travel Managen	nent Strategies:	•					
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	s. ORV's				
	Discourage:	N/A	,				
	Prohibit:	N/A					
	Eliminate:	N/A					
grass-seed entire	nent Narrative: roadway. This	: Remove all draina road system is not co	ge structures to an	upon completi ny public or co	ion of silvicult ommunity road	ral activities. 'system or to an	Water-bar and y ferry system
terminal.							
District Danger	Approval (sign	atura)			Date:		
District Kanger	whhrovar (sign	ature)			Date.		

Site Specific Design Criteria

Road No. 8430060

Road Location: Road accesses Unit 10. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Sensitive plant located north of Unit 10. Road as planned avoids the sensitive plant population. Check Sensitive Plant resource report prior to changes.

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Card 8430060



Road Management Objectives Project/EIS **System** Land Use Designation Sea Level Revilla Island TM Route Number **Route Name** Status 8430080 New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.64 0.00 0.64 **General Design Criteria and Elements** Functional Service Traffic Surface Width Critical Design Design Service Level Speed Class Life Vehicle Vehicle LI D Rock 14 L Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

Site Specific Design Criteria

Road No. 8430080

Road Location: Road accesses Units 17 and 318. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource Informa	tion (if	applical	ble):
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Timber/Logging	Systems:	
I imber/Logging	Systems.	

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

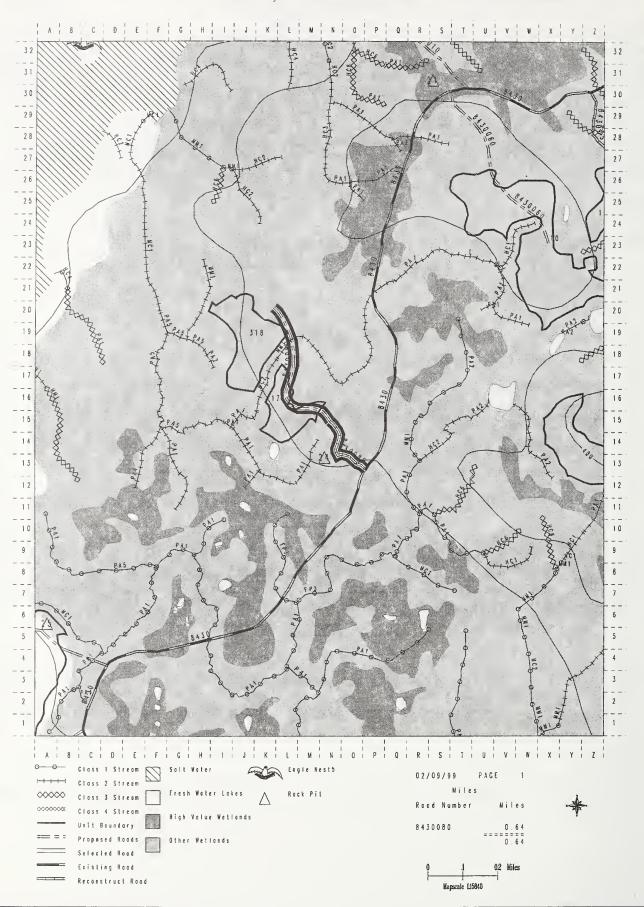
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.50 AHMU: Class II Channel Type: HC2 BF Width: 1.5m BF Depth: 20cm Substrate: gravel/cobble Gradient: 4 to 8% Structure 1,800 mm cmp Passage Req'd.: yes Timing Dates: none Narrative: Stream surveys completed in the 1997 verified the presence of resident fish above and below this streamcrossing. Recommend placing a oversized counter-sunk culvert to provide passage. Timing restrictions for instream construction is not required due to the distance (<1 mile) from downstream anadromous-fish habitat.



					-						
Project/EIS			System			Land Use	Designation				
Sea Level			Revil	la Island		TM					
Route Number	r		Route Na	ame	Status						
8430082			Pond				onstruction				
Begin M.P.		Len	-]	Begin Termini		End Termini				
0.00		().55		0.00		0.55				
			Genera	l Design C	riteria and	Elements					
Functional	Service		Traffic	Surface	Width	Critical	Design	Design			
Class	Life	S	ervice Level	Daala	1.4	Vehicle	Vehicle	Speed			
L	LI		D	Rock	14	Log Truck	Log truck	10			
ntended Purpos	se/Future	Use:									
	ural activi										
Silviculi	urai activi	nes									
			Ma	intenance	Criteria						
Operational M	aintenanc	e Level	2		0	bjective Maint	enance Level	1			
Operational ivi	amtenane	e Bever	-		01	bjective manne	enance Bever	1			
Aaintenance Na	rrative:										
			0	peration (<u>Criteria</u>						
Highway Safety	y Act:	No .	Jurisdiction:	National Fo	rest Ownership	AFI	RPR Status: c	losed			
ravel Managem	ent Strate	egies:									
	Encourage		N/A								
	Accept:		Hikers, Bicycle	s, ORV's							
	Discourag Prohibit:		N/A N/A								
	Eliminate:		N/A								
ravel Managem											
rass-seed entire r erminal.	oadway.	This road	system is not co	onnected to a	ny public or co	mmunity road	system or to an	y ferry system			
inimai.											
istrict Ranger A	Approval	(signatura	e)			Date:_					
	rr-s.mr	8	,					•			

Site Specific Design Criteria

Road No. 8430082

Road Location: Road accesses Unit 29. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (0.00 to 0.10 and 0.3 to 0.55) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Resource	Information	(if applicable):
Ti	mber/Loggin	g Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.05 AHMU Class I Channel Type: PA1 BF Width: 2.5m BF Depth: 120cm Substrate: silt/fines Gradient: 0% Structure: 2,400 mm cmp Passage Req'd.: Yes Timing Dates: 6/15 to 9/1 Narrative: Stream surveys completed in 1996 verified the presence of coho juveniles throughout this stream. Recommend placing a temporary bridge or log stringer in place of a culvert to ensure fish passage. Timing restrictions (June 15 to September 1) are required all instream activities due to the presence of coho juveniles throughout.



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Name Route Number Status 8430290 Fen New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.92 0.00 0.92 **General Design Criteria and Elements** Functional Service Traffic Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities **Maintenance Criteria** Operational Maintenance Level 2 Objective Maintenance Level 1 Maintenance Narrative: **Operation Criteria** AFRPR Status: closed **Highway Safety Act:** No Jurisdiction: National Forest Ownership **Travel Management Strategies:** N/A Encourage: Hikers, Bicycles, ORV's Accept: Discourage: N/A N/A Prohibit: Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_

Date:_

Site Specific Design Criteria

Road No. 8430290

Road Location: Road accesses Unit 33. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Timing for eagle fiests may be applicable.	
Resource Information (if applicable):	
Timber/Logging Systems:	
Soils/Water:	

Lands/Minerals/Geology/Karst:

Wildlife:

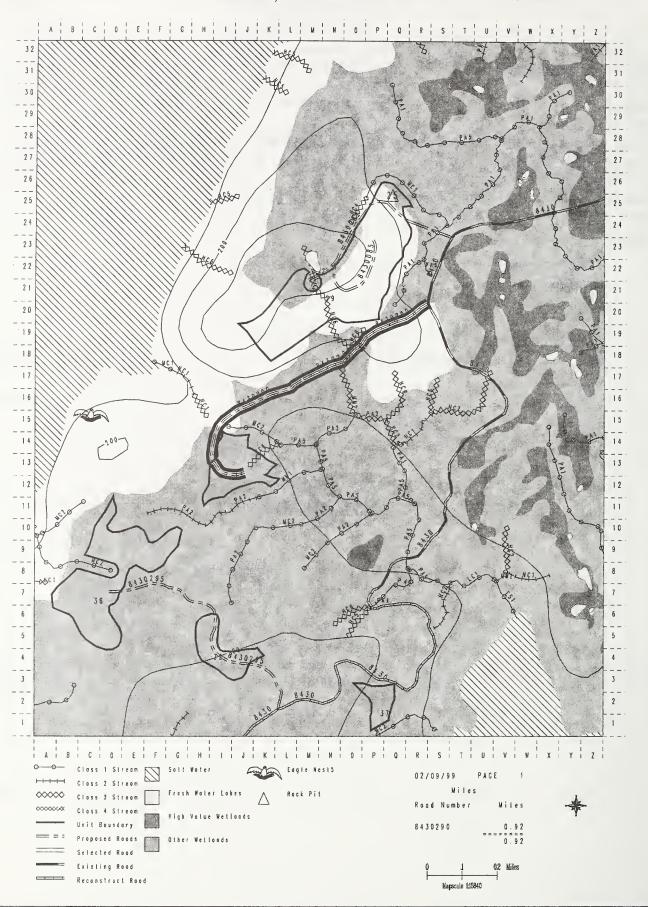
Silviculture:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management (Objectives
System	Land U
75 111 7 1 1	

Project/EIS

se Designation

Sea Level

Revilla Island

TM

New construction

Route Number 8430295

Route Name Fen

Status

Begin M.P.

Length

Begin Termini

End Termini

0.00

0.74

0.00

0.74

General Design Criteria and Elements

Functional Class L

Service Life LI

Traffic Service Level D

Surface

Rock

Width Critical Vehicle 14 Log Truck

Design Vehicle Log truck Design Speed 10

Intended Purpose/Future Use:

Silvicultural activities

Maintenance Criteria

Operational Maintenance Level

2

Objective Maintenance Level

Maintenance Narrative:

Operation Criteria

Highway Safety Act:

No

Jurisdiction: National Forest Ownership

AFRPR Status: closed

Travel Management Strategies:

Encourage:

N/A

Accept: Discourage: Hikers, Bicycles, ORV's

Prohibit:

N/A N/A

Eliminate:

N/A

Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_

Date:

Site Specific Design Criteria

Road No. 8430295

Road Location: Road accesses Units 32 and 36. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. There are no sections where road location crosses steep slopes over 67 percent.

Wetlands: Road location on wetlands is unavoidable. The entire road location is on wetlands due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Rock source for this road will be located off of designated wetlands. Timing for eagle nests may be applicable.

Timing for eagle nests may be applicable.	
Resource Information (if applicable):	
Timber/Logging Systems:	
Soils/Water:	

Wildlife:

Silviculture:

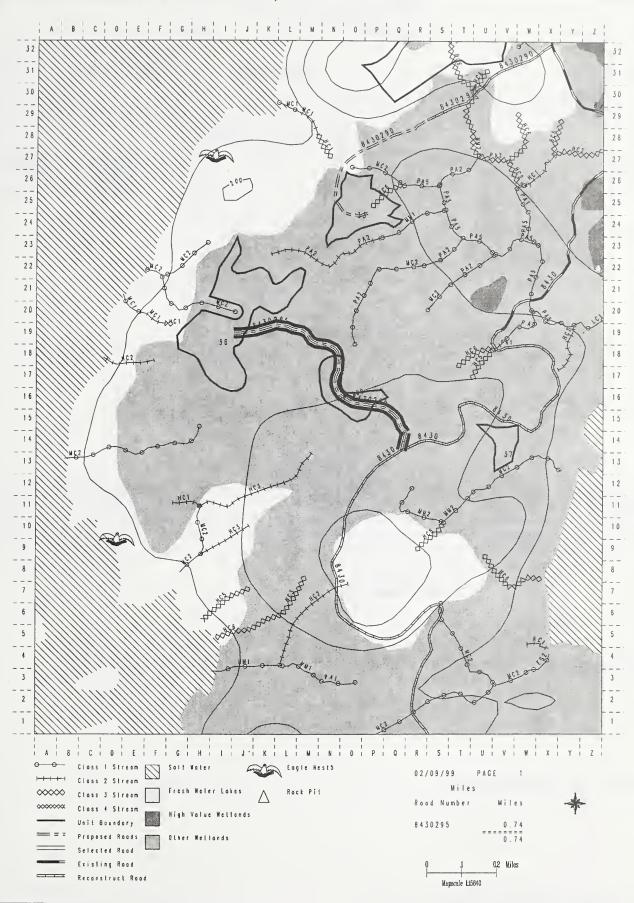
Visual/Recreation:

Lands/Minerals/Geology/Karst:

Cultural:

Stream Crossings

No streams crossed on this location.



		Ttout Ivia	nageme	nt Obje	Ctives			
Project/EIS		System			Land Use	Designation		
Sea Level		Revil	la Island		TM	9		
Route Numb	er	Route Na	ame	Status	Status			
8440000-1				Recons	truction			
Begin M.P. numerous	sections	Length	Ве	egin Termini		End Termini		
		Genera	l Design Cri	iteria and l	Elements			
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width 14	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10	
					Ü	Ü		
Intended Purp	ose/Future Use	:						
Silvicu	ltural activities							
		Ms	aintenance (Criteria -				
O	// T					T 1	2	
Operational r	Maintenance L	evel 2		Oi	ojective Maint	enance Levei	2	
Maintenance N	arrative:							
TVI MITTELLING TV	ai i ati vo.							
		<u>O</u>	peration Ci	<u>riteria</u>				
Highway Safe	ety Act: No	Jurisdiction:	National Fore	st Ownership	AFI	RPR Status: in	active	
Travel Manage	ment Strategie	es:						
	Encourage:							
	Accept: Discourage:	Hikers, Bicycle nonsilvicultural						
	Prohibit:	N/A	i traffic					
	Eliminate:	N/A						
Travel Manage	ment Narrativ	e: Maintain road for	silvicultural ac	tivities and p	ost-harvest mai	nagement activi	ties.	
District Danger	Annroyal (sig	nature)			Date:_			
District Kanger	Approvat (sig	nature)			Date:_			

Site Specific Design Criteria

Road No. 8440000-1

Road Location: Existing road.

Wetlands: Existing road, footprint of road will not change.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/	Logging	Systems:
I IIIIO CI/		DJ Stollis.

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

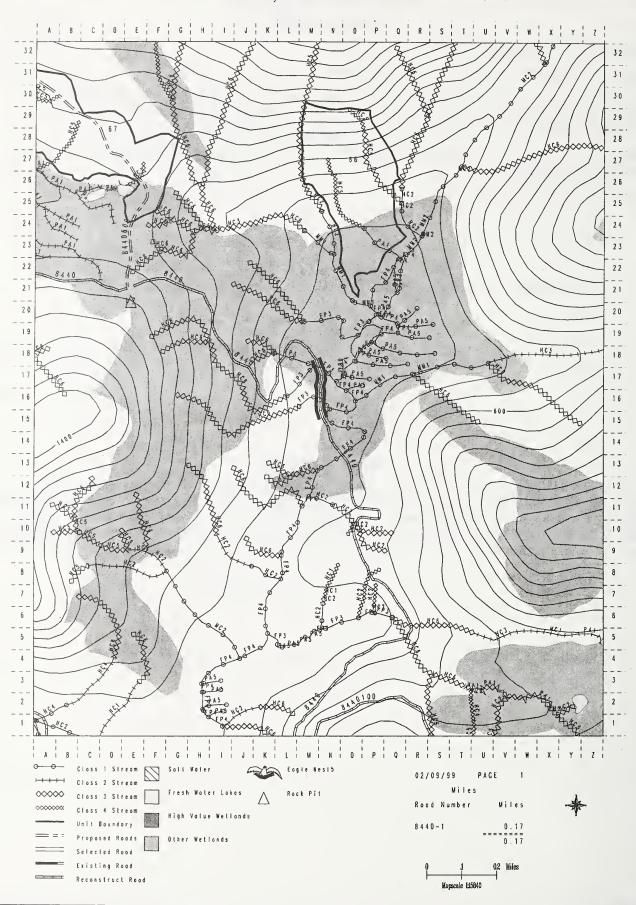
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 2.15 AHMU Class I Channel Type: FP3 BF Width: 1.5 BF Depth: 20 Substrate: sand/gravel Gradient: 1% Structure: 1,500 mm cmp Passage Req'd.: Yes Timing Dates: June 15 to September 1 Narrative: This existing streamcrossing was shown during Road Condition Surveys as not providing fish passage for both resident and anadromous fish due to perching 1.3 feet. This crossing is tentatively scheduled for culvert replacement in 1999 with an oversized counter-sunk pipe. Fish timing for all instream activities is required due to the presence of anadromous fish.



TrojecuEis		System			Land Use	Designation	
Sea Level		Revil	la Island		TM		
Route Numb	er	Route N	ame		Status		
8440110		CG o	verlook		New co	nstruction	
Begin M.P.		Length	В	egin Termini		End Termini	
0.00		1.23		1.11		2.34	
						2.5 1	
		Genera	l Design Cr	iteria and	Elements		
Functional	Service	Traffic	Surface	Width	Critical	Design	Design
Class L	Life LI	Service Level D	Rock	14	Vehicle Log Truck	Vehicle Log truck	Speed 10
_		_	110011	• ,	Dog Huen	Log truck	10
Intended Purp	ose/Future Use:						
Silvicu	ltural activities						
		Ma	intenance (Criteria			
Operational N	Maintenance Le				ive Maintenan	ao I aval	1
Operational is	Maintenance Le	vei 2		Objecti	ive Manntenan	ce Level	1
Maintenance N	arrative:						
		<u>O</u>	peration C	<u>riteria</u>			
Highway Safe	ety Act: No	Jurisdiction:	National Fore	est Ownership	AFI	RPR Status: c	losed
Travel Manage	ment Strategies	:					
	Encourage:	N/A					
	Accept:	Hikers, Bicycle	es, ORV's				
	Discourage:	N/A					
	Prohibit:	N/A					
	Eliminate:	N/A					
Fravel Manage	ment Narrative	: Remove all draina	ge structures u	ınon completi	on of silvicultu	ral activities. \	Vater-bar and
grass-seed entire		road system is not co					
erminal.							
district Ranger	Annroyal (sign	ature)			Date		
Jisti ici Kangei	Approvat (sign	atul C/			Date		

Appendix 2—Road Cards ■ Page 127 of 161

Sea Level ROD

Site Specific Design Criteria

Road No. 8440110

Road Location: Road accesses Units 57 and 56. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although, wetlands were unavoidable on some portions of the location (m.p. 0.4 to 1.23) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

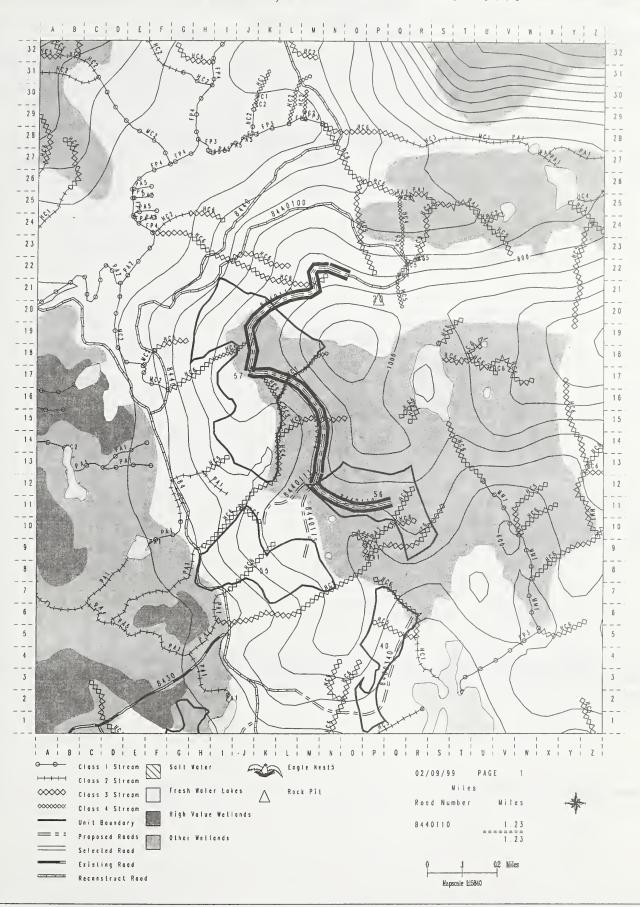
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

- A.) M.P. 0.15 AHMU Class III Channel Type: HC6 BF Width: 1.5m BF Depth: 12cm Substrate: cobble/bedrock Gradient: 20% Structure: 1,200 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- **B.)** M.P. 0.62 AHMU Class IV Channel Type:HC3 BF Width: 1.0m BF Depth: 5cm Substrate: cobble/gravel Gradient: 20% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none Narrative:
- C.) M.P. 0.78 AHMU Class III Channel Type:HC6 BF Width: 1.5m BF Depth: 15cmSubstrate: cobble/bedrock Gradient: 15% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none Narrative:



Road Management Objectives Project/EIS System Land Use Designation Revilla Island Sea Level TM Route Number Route Name Status 8440113 CG spurl New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.30 0.00 0.30 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Class Life Service Level Speed Vehicle Vehicle L LI D Rock 14 Log Truck Log truck 10 **Intended Purpose/Future Use:** Silvicultural activities **Maintenance Criteria Operational Maintenance Level** 2 **Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** Jurisdiction: National Forest Ownership No AFRPR Status: closed Travel Management Strategies: Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system

terminal.

District Ranger Approval (signature)_ Date:_

Site Specific Design Criteria

Road No. 8440113

Road Location: Road accesses Unit 55. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.0 to 0.12) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting

within !	∕₂ mile of	know	n eagl	e nests						
-	T C		(:c	1. 1	1					

Resource Information (if applicable):	
Timber/Logging Systems:	
Soils/Water:	

Lands/Minerals/Geology/Karst:

Wildlife:

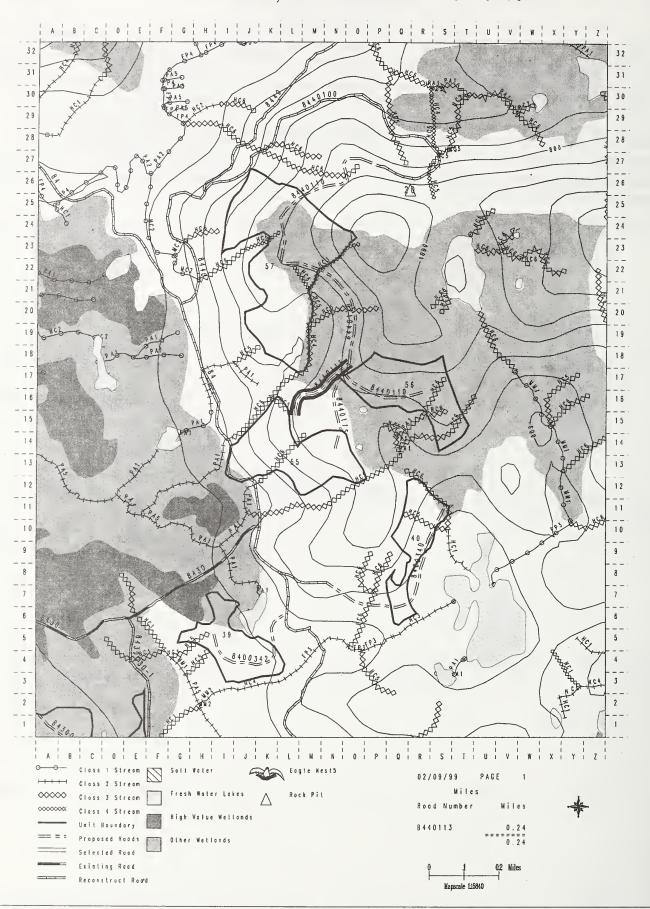
Silviculture:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Project/EIS		System Land Use Designation					
Sea Level		Revilla Island TM					
Route Number		Route Name Status					
8440115		CG spur2 New construction					
Begin M.P.	L	ength	Ве	egin Termini		End Termini	
0.00		0.26		0.00		0.26	
		General	Design Cr	iteria and I	Elements		
Functional	Service	Traffic	Surface	Width	Critical	Design	Design
Class	Life	Service Level			Vehicle	Vehicle	Speed
L	LI	D	Rock	14	Log Truck	Log truck	10
Intended Purpos	e/Future Use:						
	ıral activities						
Silviculu	irai activities						
		Ma	intenance (<u>Criteria</u>			
Operational Ma	aintenance Level	2		Oh	jective Maint	enance Level	1
•					J		•
Maintenance Nar	rative•						
viaintenance ivai	racive.						
		<u>O</u> 1	peration Ci	iteria			
Highway Safety	Act: No	Jurisdiction:	National Fore	st Ownershin	AFI	RPR Status: cl	osed
garway sarety		V 41 15 41 0 11 0 11 0 11 0 11 0 11 0 11	. (41101101 2 014	or o wilding		ta it beatable of	0000
Travel Managem	ent Strategies						
	Encourage:	N/A	OBV				
	Accept: Discourage:	Hikers, Bicycles N/A	s, ORV s				
	Prohibit:	N/A					
	Eliminate:	N/A					
Travel Managem grass-seed entire re	ent Narrative: Foadway. This roa	Remove all drainaged system is not co	ge structures u	pon completion	on of silvicultu mmunity road	ral activities. V	Vater-bar and ferry system
erminal.							
District Ranger A	pproval (signatu	ire)			Date:		
9		,					

Site Specific Design Criteria

Road No. 8440115

Road Location: Road accesses Unit 55. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.0 to 0.05) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Within 72 mine of idio will dugic means.	
Resource Information (if applicable):	
Timber/Logging Systems:	
Soils/Water:	

Lands/Minerals/Geology/Karst:

Wildlife:

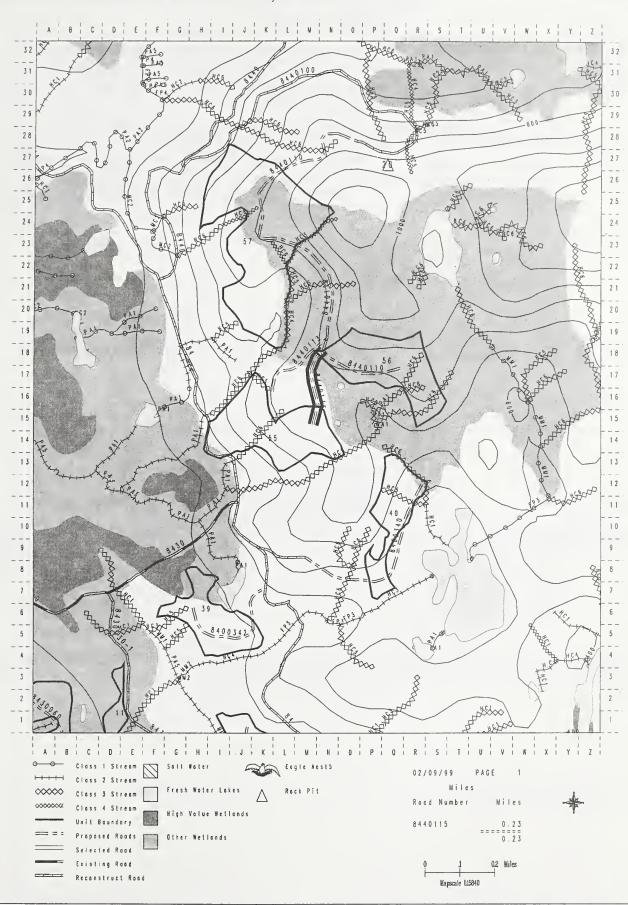
Silviculture:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



Road Management Objectives Project/EIS System Land Use Designation Revilla Island Sea Level TM Route Number Route Name Status 8440600 Blueberry New construction Begin M.P. Length Begin Termini **End Termini** 0.00 1.11 0.00 1.11 General Design Criteria and Elements Functional Service Traffic Surface Width Critical Design Design Life Service Level Class Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria** Jurisdiction: National Forest Ownership **Highway Safety Act:** No AFRPR Status: closed Travel Management Strategies: Encourage: N/A Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)

Date:

Site Specific Design Criteria

Road No. 8440600

Road Location: Road accesses Units 67 and 68. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.35) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Sensitive plants in Unit 67. Check Sensitive Plant Resource Report if road location changes from planned

location.

Visual/Recreation:

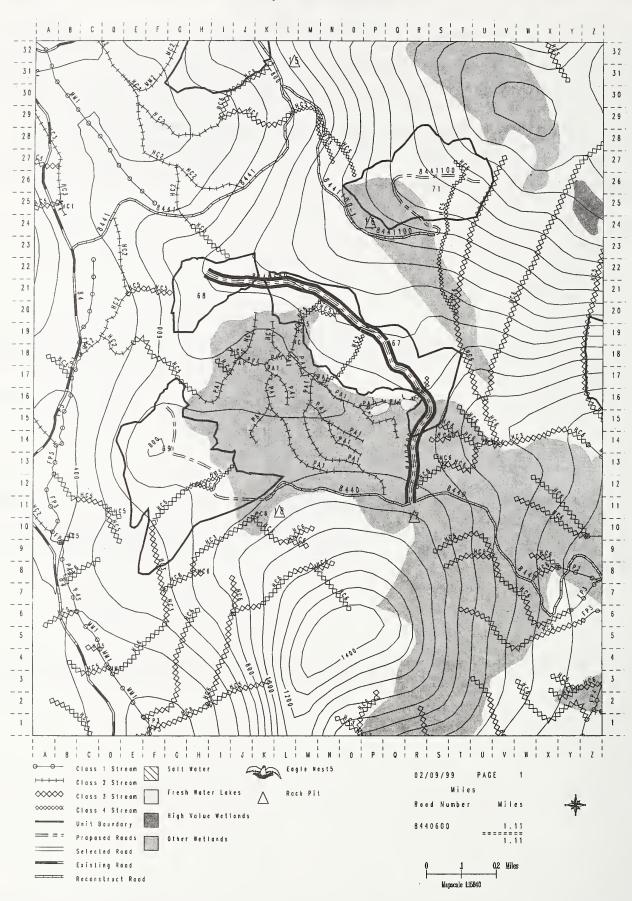
Cultural:

Stream Crossings

A.) M.P. 0.37 AHMU Class IV Channel Type: HC1 BF Width: 0.5m BF Depth: 10cm Substrate: bedrock/cobble

Gradient: 12% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none

Narrative:



Project/EIS		System			Land Use Designation			
Sea Level		Revilla Island			TM			
Route Number	•	Route Name			Status			
8440700					New co	onstruction		
Begin M.P.	L	ength	Be	gin Termini		End Termini		
0.00		0.50		0.00		0.50		
		General	Design Cr	iteria and l	Elements			
Functional	Service	Traffic	Surface	Width	Critical	Design	Design	
Class	Life	Service Level			Vehicle	Vehicle	Speed	
L	LI	D	Rock	14	Log Truck	Log truck	10	
Intended Purpos	se/Future Use:							
Silvicult	ural activities							
		3.4	• 4	7 • 4 •				
		<u>Ma</u>	intenance (riteria				
Operational M	aintenance Level	2		Ob	jective Maint	enance Level	1	
Maintenance Na	rrative:							
		<u>O</u>	peration Ci	<u>iteria</u>				
Highway Safet	y Act: No	Jurisdiction:	National Fore	st Ownership	AFI	RPR Status: cl	osed	
				•				
Travel Managen	nent Strategies:							
	Encourage:	N/A						
	Accept:	Hikers, Bicycle	s ORV's					
	Discourage:	N/A	3, 010 5					
	Prohibit:	N/A						
	Eliminate:	N/A						
		Remove all drainag						
	oadway. This roa	nd system is not co	onnected to any	y public or co	mmunity road	system or to an	y ferry system	
terminal.								
		•						
District Ranger A	Approval (signati	ıre)			Date:_			

Appendix 2—Road Cards ■ Page 139 of 161

Sea Level ROD

Site Specific Design Criteria

Road No. 8440700

Road Location: Road accesses Unit 69. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.10) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

even t	4 79"		~
lim	her/l (nama	Systems:
TITIT		JERHIE	o you into.

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Sensitive plants in Unit 67. Check Sensitive Plant Resource Report if road location changes from planned location

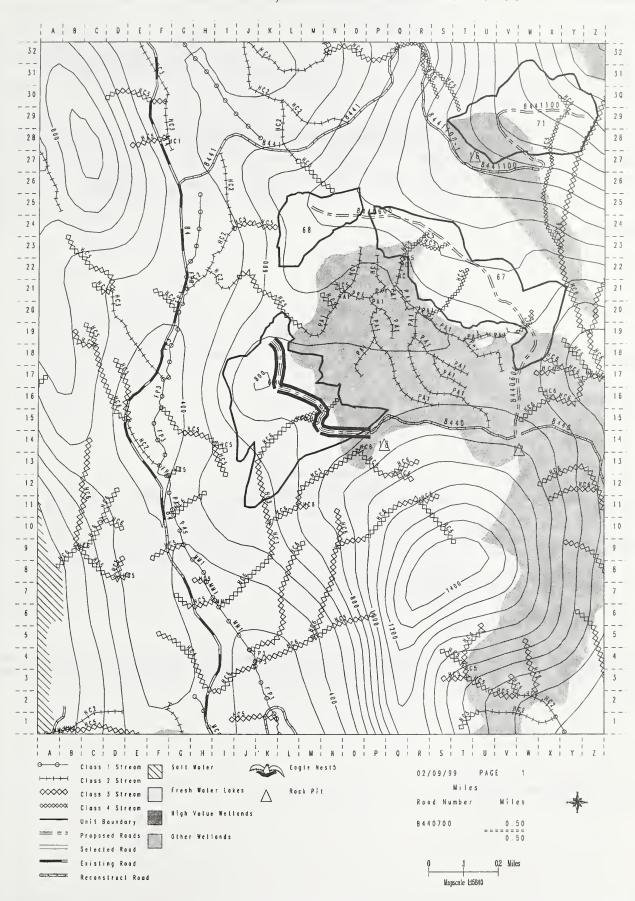
Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.25 AHMU Class IV Channel Type: HC1 BF Width: 0.5m BF Depth: 10cm Substrate: bedrock/cobble Gradient: 12% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none

Narrative:



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TMRoute Name Route Number Status Nose 8441100-1 and -2 New construction & existing Begin M.P. Length Begin Termini **End Termini** 0.00 1.23 0.00 1.23 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Life Service Level Class Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level** Objective Maintenance Level 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A N/A Prohibit: Eliminate: N/A

Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

Site Specific Design Criteria

Road No. 8441100-1 and -2

Road Location: Road accesses Unit 71. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.15 to 0.35) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.05 AHMU Class III Channel Type: HC5 BF Width: 1.5m BF Depth: 10cm Substrate: cobble/bedrock

Gradient: 12% Structure: 1,200 mm cmp Passage Req'd.: none Timing Dates: none

Narrative: This existing streamcrossing was identified as having drainage failure due to 100 percent blockage of an existing 36 inch culvert. Replacement of this culvert is scheduled for FY 1999.

B.) M.P. 1.20 AHMU Class IV Channel Type: HC5 BF Width: 0.4m BF Depth: 10cm Substrate: bedrock

Gradient: 12% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none

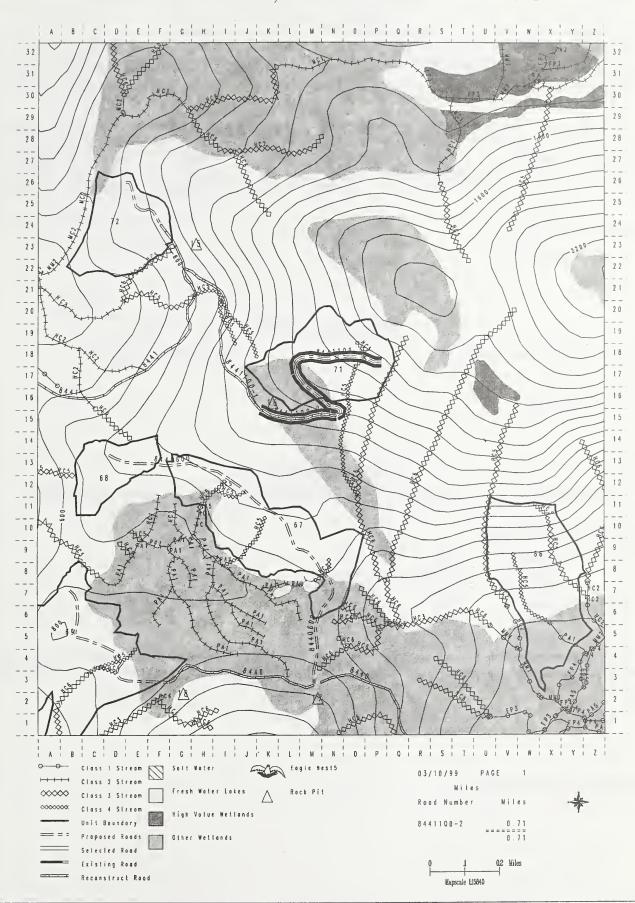
Narrative:

Sea Level Study Area Road Card 8441100-1 A . 8 . C . O . E . F . G . H . I . J . K . L . M . N . O . P . Q . R . S . T . U . V . W . X . Y . Z . 3 2 3 1 3 1 30 30 2 9 29 28 - - -2 7 26 2 6 25 25 2 4 2 3 23 22 2 1 2 1 20 20 19 19 18 18 17 1.7 16 15 15 1.3 1 3 1 2 12 1.1 10 9 8 8 7 6 5 2 Eagle Nest5 Rock Pit ∞∞∞ Road Number 8 4 4 1 1 0 0 - 1

0.2 Miles

Mapscale 1:15840

Sea Level Study Area Road Card 8441100-2



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Number Route Name Status 8441105 CG spur3 New construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.18 0.00 0.18 **General Design Criteria and Elements Functional** Service Traffic Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria **Operational Maintenance Level** 2 Objective Maintenance Level 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A

Travel Management Narrative: Remove all drainage structures upon completion of silvicultural activities. Water-bar and grass-seed entire roadway. This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_ Date:

Site Specific Design Criteria

Road No. 8441105

Road Location: Road accesses Unit 72. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.0 to 0.05) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource	Information	(if applicable):

Timber/Logging Sy	stems:
-------------------	--------

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

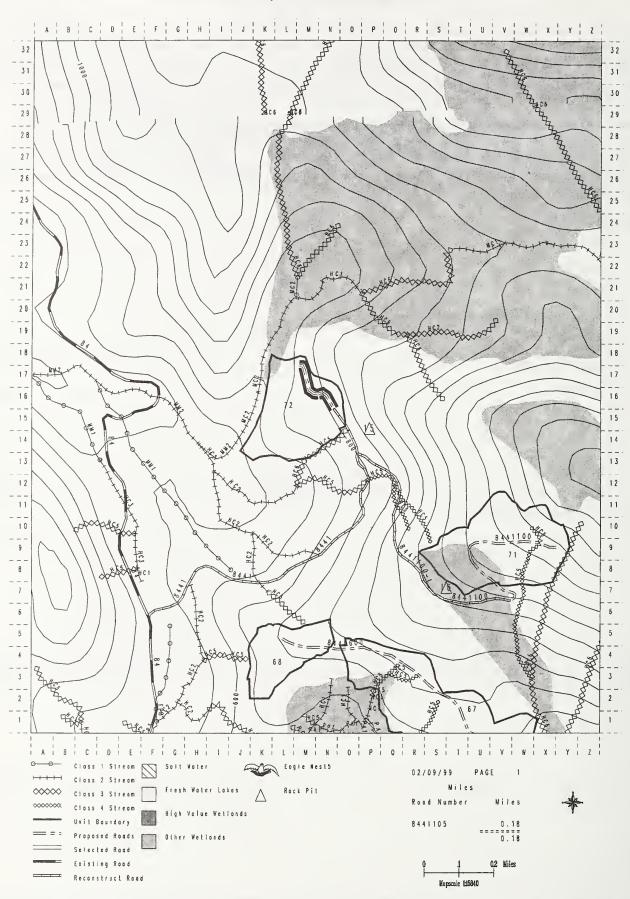
Wildlife:

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.



			0	-				
Project/EIS		System			Land Use	Designation		
Sea Level		•			TM			
Route Number		Route Name Status						
8444000-1		Fish			existin	g		
Begin M.P.		Length	Ве	egin Termini		End Termini		
0.00		1.01		0.00		1.01		
		<u>General</u>	Design Cri	iteria and l	Elements			
Functional	Service	Traffic	Surface	Width	Critical	Design	Design	
Class	Life	Service Level			Vehicle	Vehicle	Speed	
L	LI	D	Rock	14	Log Truck	Log truck	10	
ntended Purpos	e/Future Use:							
Silvicult	ural activities							
		Ma	intenance (Criteria				
0 134					3.6		1	
Operational M	aintenance Le	vel 2		Objective	Maintenance	Level	1	
		0	peration Ci	riteria				
III alaman Cafata	v A ata — NTa				A IZI	RPR Status: in	an ativo	
Highway Safety	Act: No	Jurisdiction:	National Fore	est Ownersnip	AFI	RPR Status: II	nactive	
ravel Managem	ent Strategies	•						
	Encourage: Accept:	N/A Hikers, Bicycle	s ORV's					
	Discourage:	N/A	3, 010 3					
	Prohibit:	N/A						
	Eliminate:	N/A						
Travel Managem ystem terminal.	ent Narrative	: This road system i	s not connecte	d to any publi	c or communit	y road system	or to any ferr	
,								
District Ranger A	Approval (sign	ature)			Date:_			

Site Specific Design Criteria

Road No. 8444000-1

Road Location: Road accesses Unit 82. Road construction should be moderate to easy over most portions of the road. The CMP to be replaced at m.p. 0.1 will require fish passage and timing.

Wetlands: N/A

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Tim	ber/L	ogging	Systems:
TITLE	OCI/L	Uppurp.	DJ DECILIO.

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

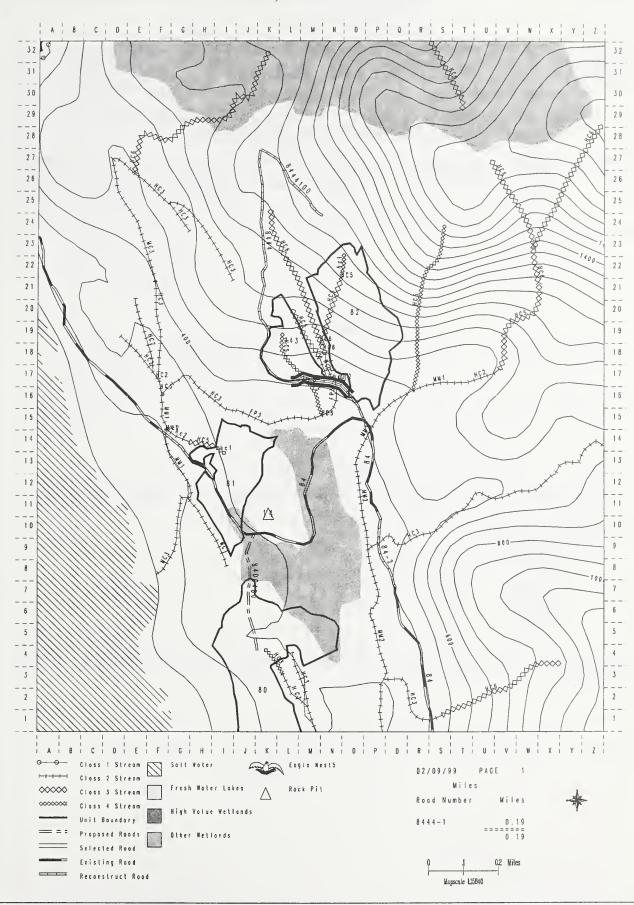
Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 0.1 AHMU Class II Channel Type: HC2 BF Width: 2m BF Depth: 25cm Substrate: cobble/gravel Gradient: 6% Structure: 1,500 mm cmp Passage Req'd.: Yes Timing Dates: none Narrative: Road condition surveys conducted in 1997 verified this streamcrossing as not passing fish due to a 1.5 foot perching of the existing 36 inch culvert. This streamcrossing is tentatively scheduled for culvert replacement to ensure fish passage in 1999. No timing restrictions are required due to the absence of anadromous fish.

Sea Level Study Area Road Card 8444-1



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Number Route Name Status 8445000 N. FK. Calamity new construction Begin M.P. Length Begin Termini **End Termini** 0.00 1.61 0.00 1.61 **General Design Criteria and Elements** Service **Functional** Traffic Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed L LI D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria 2 **Operational Maintenance Level Objective Maintenance Level** 1 Maintenance Narrative: **Operation Criteria Highway Safety Act:** No Jurisdiction: National Forest Ownership AFRPR Status: closed Travel Management Strategies: Encourage: N/A Accept: Hikers, Bicycles, ORV's Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)___

Date:

Site Specific Design Criteria

Road No. 8445000

Road Location: Road accesses Units 88 and 90. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. No sections of steep slopes over 67 percent where encountered. Final road location should look at relocating the road to the south side of the Class II stream, thus avoiding class II stream crossings and reducing impacts on wetlands (extension of 8445100).

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.35 to 0.55 and m.p. 1.02 to 1.08) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass-seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource	Information	(if	appl	icabl	e)):
----------	-------------	-----	------	-------	----	----

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Road is within ½ mile of a bald eagle nest. Timing restrictions apply.

Visual/Recreation:

Cultural:

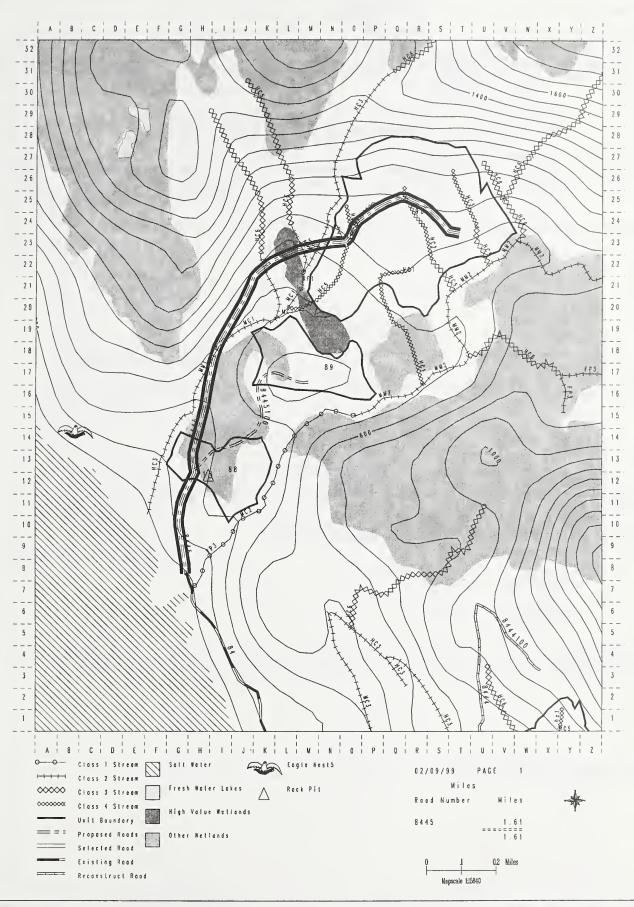
Stream Crossings

Road No. 8445000

Due to the number of Class II streamcrossings present on this road segment, it is recommended that the transportation engineer and fisheries biologist work to relocate this road on the opposite side of the watershed to avoid the Class II streamcrossings. If relocation of this road is not possible, install oversized counter-sunk culverts to ensure fish passage on the four Class II streamcrossings.

- A.) M.P. 0.68 AHMU Class II Channel Type: MM1BF Width: 4.0m BF Depth: 35cm Substrate: cobble/gravel Gradient: 2 to 4% Structure: 2,100 mm cmp Passage Req'd.: Yes Timing Dates: none Narrative:
- **B.)** M.P. 0.95 AHMU Class II Channel Type: HC2 BF Width: 2.5m BF Depth: 26cm Substrate: cobbles Gradient: 4 to 6% Structure: 1,800 mm cmp Passage Req'd.: Yes Timing Dates: none Narrative:
- C.) M.P. 1.07 AHMU Class II Channel Type: HC3 BF Width: 1.1m BF Depth: 20cm Substrate: cobbles Gradient: 10% Structure: 1,500 mm cmp Passage Req'd.: Yes Timing Dates: none Narrative:
- D.) M.P. 1.11 AHMU Class II Channel Type: HC3 BF Width: 1.3m BF Depth: 25cm Substrate: cobbles Gradient: 9% Structure: 1,800 mm cmp Passage Req'd.: Yes Timing Dates: none Narrative:
- E.) M.P. 1.20 AHMU Class IV Channel Type: HC5 BF Width: 0.5m BF Depth: 10cm Substrate: bedrock Gradient: 10% Structure: 600 mm cmp Passage Req'd.: None Timing Dates: none Narrative:
- F.) M.P. 1.43 AHMU Class IV Channel Type: HC2 BF Width: 0.5m BF Depth: 9cm Substrate: bedrock Gradient: 12% Structure: 450 mm cmp Passage Req'd.: none Timing Dates: none Narrative:

Sea Level Study Area Road Card 8445



Road Management Objectives Project/EIS System Land Use Designation Sea Level Revilla Island TM Route Number **Route Name** Status 8445100 N. FK. Calamity Spur new construction Begin M.P. Length Begin Termini **End Termini** 0.00 0.52 0.00 0.52 **General Design Criteria and Elements** Service Traffic Functional Surface Width Critical Design Design Class Life Service Level Vehicle Vehicle Speed LI L D Rock 14 Log Truck Log truck 10 Intended Purpose/Future Use: Silvicultural activities Maintenance Criteria **Operational Maintenance Level** 2 Objective Maintenance Level 1 Maintenance Narrative: **Operation Criteria** Jurisdiction: National Forest Ownership AFRPR Status: closed **Highway Safety Act:** No Travel Management Strategies: N/A Encourage: Hikers, Bicycles, ORV's Accept: Discourage: N/A Prohibit: N/A Eliminate: N/A Travel Management Narrative: This road system is not connected to any public or community road system or to any ferry system terminal.

District Ranger Approval (signature)_

Date:

Site Specific Design Criteria

Road No. 8445100

Road Location: Road accesses Units 88 and 89. Road construction should be moderate to easy over most portions of the road. Road located to accommodate logging systems and still have least impact on the other resources. No sections of steep slopes over 67 percent where encountered. Final road location should look at relocating road 8445000 to use this location as there may be some savings in stream crossings.

Wetlands: Road location was completed to avoid wetlands although wetlands were unavoidable on some portions of the location (m.p. 0.00 to 0.25 and m.p. 0.40 to 0.43) due to safety, engineering design constraints and considerations for other resources.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource	Information	(if applicable)	

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife: Road is within ½ miles of a bald eagle nest. Timing restrictions apply to blasting.

Visual/Recreation:

Cultural:

Stream Crossings

No streams crossed on this location.

Sea Level Study Area Road Cord 8445100 A | B | C | D | E | F | G | H | I | J | K | L | M | N | Q | P | Q | R | S | T | U | V | W | X | Y | Z | 3 2 32 3 1 31 30 30 2 9 29 28 28 2 7 27 26 26 2 5 2 5 2 4 2 4 2 3 23 22 22 2 1 2 1 20 20 19 1.8 18 1.7 17 16 15 15 (900 14 13 13 12 12 1.1 1.1 9 Fresh Woler Lakes Rack Pit Rood Number High Value Wellonds 8445100 Other Wellands Existing Road 0,2 Miles

Reconstruct Road

			8				
Project/EIS		System			Land Use 1	Designation	
Sea Level		•	Island		TM		
Route Numbe	r	Route Nar	ne		Status		
8446000-1					Reconst	ruction	
Begin M.P. 4.59	Le	ngth	Be	gin Termini		End Termini	
					Elements		
Functional Class L	Service Life LI	Traffic Service Level D	Surface Rock	Width	Critical Vehicle Log Truck	Design Vehicle Log truck	Design Speed 10
-							
Silviculi	tural activities						
		B.f. *					
		Mai	ntenance C	riteria			
Operational M	laintenance Level	2		Objectiv	e Maintenanc	e Level	2
Maintenance Na	Revilla Island TM ber Route Name Status Reconstruction Length Begin Termini End Termini General Design Criteria and Elements Service Traffic Surface Width Critical Design Vehicle Vehicle Speed Life Service Level D Rock 14 Log Truck Log truck 10 Dosse/Future Use: ultural activities Maintenance Criteria Maintenance Level 2 Objective Maintenance Level 2						
,14411001141100114							
		On	eration Cr	iteria			
Highway Cofee	w. A ota - NI-				A IPT	DD Status, inc	ativa
Highway Salet	y Act: No	Jurisdiction: 1	vational Fores	st Ownership	Arr	CFR Status: Illa	ctive
Travel Managen	nent Strategies:						
	Accept: Discourage: Prohibit:	Hikers, Bicycles nonsilvicultural t N/A	, ORV's traffic				
fravel Managen	nent Narrative: N	laintain road for si	lvicultural act	tivities and po	ost-harvest mar	agement activiti	ies.
Notwist Damasu	Annuaval (sign atro				Datas		
zistrict Kanger .	Approvai (signatu	re)			Date:_		

Site Specific Design Criteria

Road No. 8446000-1

Road Location: Existing road.

Wetlands: Existing road, footprint of road will not change.

Erosion Control: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMPs 12.17, 14.8).

Rock Pits: As shown on the map, no major concerns. Timing will be required on all pit and road right-of-way blasting within ½ mile of known eagle nests.

Resource Information (if applicable):

Timber/Logging Systems:

Soils/Water:

Silviculture:

Lands/Minerals/Geology/Karst:

Wildlife:

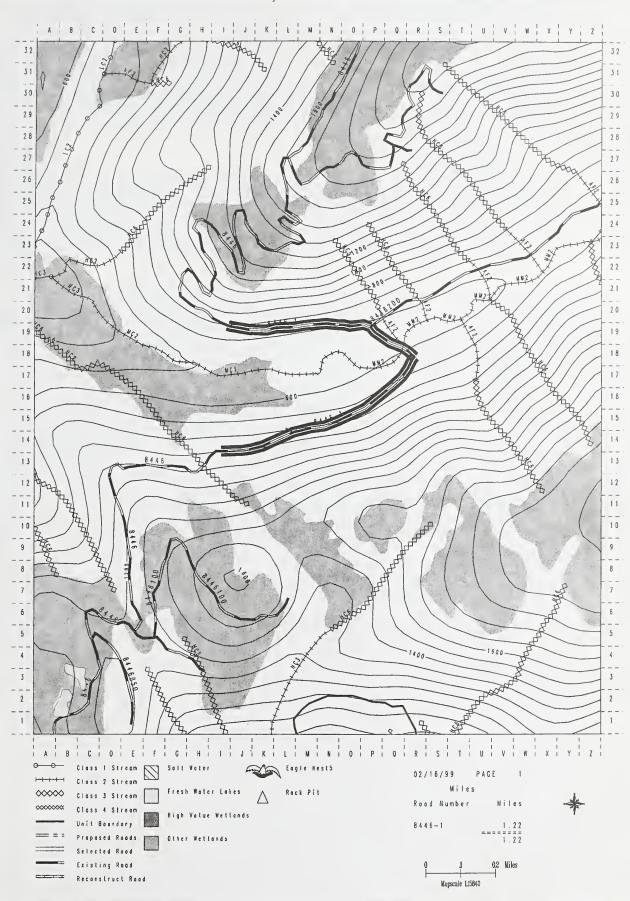
Visual/Recreation:

Cultural:

Stream Crossings

A.) M.P. 4.59 AHMU Class II Channel Type: MM1 BF Width: 2m BF Depth: .25 Substrate: gravel/sand Gradient: 2% Structure: 1,500 mm cmp Passage Req'd.: Yes Timing Dates: No Narrative: This streamcrossing was identified as failing to provide fish passage for resident fish due to perching of 1.5 foot. Replacement of the existing culvert with a larger counter-sunk pipe is tentatively scheduled for 1999.

Sea Level Study Area Road Card 8446-1





Appendix 3

Responses to Comments



Nonsignificant Amendment to the Forest Plan

Small Old-Growth Habitat Reserve Adjustments in VCU 756

Based on the project level analysis process as described in the old-growth management prescriptions and Appendix K of the Tongass National Forest Land and Resource Management Plan of 1997 (TLMP), the Mop Point Small Old-Growth Reserve, located in Value Comparison Unit (VCU) 756 in the Sea Level Project Area, has been adjusted to better meet size, location and habitat composition criteria in the VCU. The reserve, as mapped in the TLMP, met the productive old-growth acreage requirement for small reserves, but the size of the reserve was selected before the criteria in the TLMP were finalized and the total size of the reserve as mapped, was smaller by 150 acres than the criteria specified in Appendix K of the TLMP.

The Secretary of Agriculture's implementing regulation indicates the determination of significance is to be "...based on an analysis of the objectives, guidelines and other contents of the forest plan" (36 Code of Federal Regulation (CFR) 219.10(f)). The Forest Service has issued guidance for determining what constitutes a "significant amendment" under the National Forest Management Act. This guidance, in the Forest Service Handbook (FSH) 1909.12 - Chapter 5.32, identifies four factors to be used in determining whether a proposed change to the TLMP is significant or not significant. These four factors are: (1) timing, (2) location and size, (3) goals, objectives, and outputs, and (4) management prescriptions. The Alaska Region issued a supplement to FSH 1909.12, Chapter 5.32, effective October 17, 1990, that includes an additional factor which may be considered, in determining the significance of a TLMP Amendment. This additional factor deals with technical changes. An analysis of the factors is presented below.

The TLMP revision was completed in 1997. The old-growth habitat management prescription in the TLMP indicates the small mapped reserves have received differing levels of field verification and integration of site-specific information in their design. During project level environmental analysis, for project areas that include or are adjacent to mapped old-growth habitat reserves, the size, spacing and habitat composition of mapped reserves may be further evaluated.

The location has been adjusted to an area in the vicinity south of Gnat Cove in the area formerly occupied by Units 171 and 172 (see the Record of Decision Map). The size of the adjusted Mop Point Old-Growth Reserve is approximately 1,395 acres, of which 500 acres were classified in TLMP calculations as suitable and available for timber production.

Goals

The TLMP goal for biodiversity is to maintain healthy forest ecosystems; maintain a mix of habitats at different spatial scales (i.e. site, watershed, island, province and Forest) capable of supporting the full range of naturally occurring flora, fauna, and ecological processes native to Southeast Alaska. The adjustment to the Mop Point Old-Growth Reserve is consistent with the goals of the TLMP.

Objectives

The TLMP objectives include: (1) to maintain a Forest-wide system of old-growth forest habitat (includes reserves, nondevelopment Land-Use Designations (LUD), and beach, estuary and riparian corridors) to sustain old-growth associated species and resources and (2) to ensure that the reserve system meets the minimum size, spacing and composition criteria described in Appendix K of the

Timing

Location and Size

Goals, Objectives, and Outputs

3 Appendix

TLMP. The adjustment to the Mop Point Small Old-Growth Reserve was specifically designed to meet the TLMP objectives.

Outputs

Management Prescriptions

Adjustment of the Mop Point Small Old-Growth Reserve will have only minor effects on TLMP outputs.

Technical Changes

The Mop Point Small Old-Growth Reserve has been adjusted as noted in the TLMP Record of Decision and in accordance with the Old-Growth LUD management prescription. None of the standards and guidelines associated with the management prescriptions have been changed.

Cumulative Changes

Technical changes to a Plan's management direction may be made, on the basis of new information discovered about the actual resource characteristics of the area. This category does not apply to the Sea Level Timber Sale.

The Sea Level Timber Sale is one of eight National Environmental Policy Act (NEPA) decisions as of April 1999, to make nonsignificant amendments to the TLMP by modifying LUD boundaries. The Niblack Environmental Assessment (EA) changed a Wild River nondevelopment LUD to Old-Growth Habitat and Timber Management LUDs. The rest of the amendments involved enlargement or reduction of Old-Growth Habitat LUDs, usually exchanging acres with one of the resource development LUDs in order to more effectively meet TLMP objectives. Usually, wherever an Old-Growth Habitat LUD expanded, it caused a corresponding reduction of acres suitable for timber harvest. Likewise, an Old-Growth Habitat LUD size reduction usually meant an increase in suitable acres.

While the LUD changes within each project decision constituted nonsignificant TLMP amendment, Table Appendix 3-1 displays the accumulated effect on suitable acres for all projects. For each project the table displays suitable acres which were changed from a nondevelopment LUD to a resource development LUD, or from a development LUD to Old-Growth Habitat. The net change in suitable acres represent less than 1 percent of the suitable land base.

Table Appendix 3-1

Effects of TLMP Amendments on Acres Suitable for Timber Harvest as of March 1999

Project	Nondevelopment to Development LUD	Development to Nondevelopment LUD	Net Change in Suitable Acres
Sea Level EIS	185	500	-315
Canal Hoya EIS	0	151	-151
Chasina EIS	0	78	-78
Control Lake EIS	446	142	304
Crystal Creek EIS	481	1153	-672
Nemo Loop EA	177	932	-755
Todahl Backline EA	2	363	-361
Niblack EA	252	0	252
Total	1,543	3,319	-1,776

Source: 1998 Monitoring Report Draft

Conclusion

Based on a consideration of the factors above, I conclude adoption of this amendment is not significant in a National Forest Management Act context. This amendment is fully consistent with current TLMP goals and objectives. The amendment provides added detail on implementation of the old-growth habitat management prescriptions of the TLMP.

I hereby amend the TLMP with this nonsignificant amendment by adjusting the Mop Point Small Old-Growth Reserve as shown on the Record of Decision Map and documented in the planning record of the Sea Level Timber Sale Final Environmental Impact Statement.

CAROL J. JORGENSEN

Assistant Forest Supervisor

5-3-99

Date





Key Terms

Allowable Sale Quantity (ASQ)—the maximum quantity of timber that may be sold each decade from a National Forest.

Land Use Designation (LUD)—method of classifying land uses, presented in the Tongass Land Management Plan of 1997 (TLMP).

MMBF—million board feet.

Management Prescriptions—management practices and intensity selected and scheduled for application on a specific area to attain multiple-use goals and objectives. Old-Growth Forest—an ecosystem distinguished by old trees and related structural attributes. They differ from younger forests in a variety of characteristics including tree size, accumulation of large, dead, woody material, number of canopy layers, tree species composition, and ecosystem function.

Scoping—a process used to determine the significance of a proposed action, what analysis is required, what data is needed, and what public participation is appropriate.

Tongass Land Management Plan (TLMP)—the 10-year land-allocation plan for the Tongass National Forest, also known as the Forest Plan. The TLMP was revised in 1997.

Value Comparison Unit (VCU)—area which generally encompasses a drainage basin where resource inventories and interpretations are made.

Introduction

The Sea Level Final Environmental Impact Statement (EIS) analyzes the effects of timber sales within the Sea Level Project Area on Revillagigedo Island. The decision about which Alternative to chose will be based upon laws and other direction and upon public need.

In this EIS we describe a Proposed Action and three alternative approaches to harvesting timber and building and maintaining roads to make timber on Revillagigedo Island available for harvest within the Project Area. The No-Action Alternative is presented and the agency's Preferred Alternative is identified. We have also disclosed the environmental effects and resource outputs expected from the Proposed Action and each of the alternatives.

We developed alternatives to address Tongass Land Management Plan (TLMP) direction and concerns from the public. The key issues addressed are timber harvest economics and supply, fish habitat, water quality, recreation, scenery, wildlife habitat, subsistence use, socioeconomic effects, and marine environment.

Sea Level ROD Summary ■ 1

Project Area

The Sea Level Project Area contains 91,747 acres of National Forest System lands and is located approximately 18 air miles east of Ketchikan, Alaska (Figure Summary-1). It encompasses an area of south-central Revillagigedo (Revilla) Island that extends from Swan Lake south along both sides of Carroll Inlet and includes the lands adjacent to Thorne Arm. There are no communities within or adjacent to the Project Area. Access to the Project Area is by small plane or boat, generally originating from Ketchikan.

Proposed Action

The proposed action would harvest approximately 60 million board feet (MMBF) of timber, from an estimated 2,500 acres, through a series of timber sales beginning in 1999. As many as 65 miles of new road would be built to facilitate timber removal. Two existing log-transfer facilities (LTFs) and one re-constructed facility would be utilized to implement the action alternatives.

The Proposed Action is consistent with the TLMP. Project implementation will help move the existing forest condition toward the desired future condition.

Purpose and Need

The Sea Level Timber Sale Project is proposed to move the Project Area toward the desired future condition, and to respond to the goals and objectives identified for the Project Area by the TLMP.

The TLMP identified the following goals and objectives:

- improve timber growth and productivity on suitable timber lands made available for timber harvest, and manage these lands for long-term sustained yield of timber,
- contribute to a timber supply to meet market demand, and
- provide opportunities for local employment in the wood products industry, which in turn contribute to the local and regional economies of Southeast Alaska.

The Project will respond to these goals and objectives. It will move the Project Area toward the desired future condition by, managing suitable timber lands for the production of sawtimber and other wood products while maintaining a variety of successional stages which provide a range of wildlife habitat conditions. More detailed information on timber market demand, local employment opportunities and timber harvest scheduling is available in the planning file.

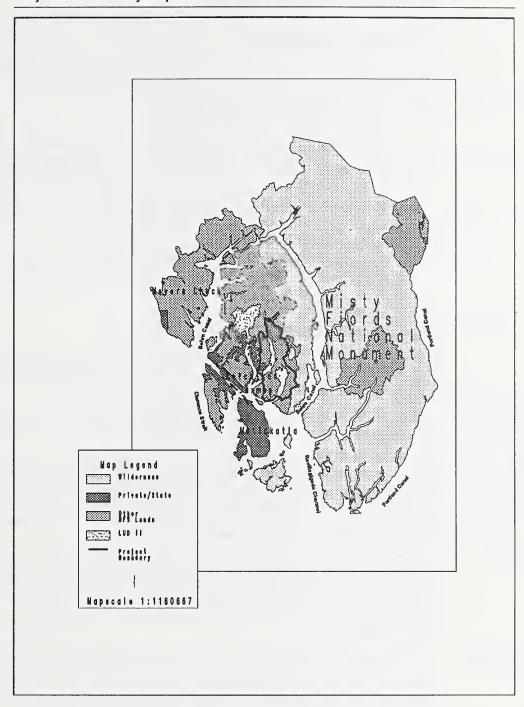
Background

In 1995 analysis for this Project began with reconnaissance of potential units. In 1997 a Notice of Intent (NOI) was published. Shortly after this the revised TLMP was published, this forced changes in the Project as a whole and in individual units. The original Proposed Action and Purpose and Need were reviewed and found to still be valid. The decision was made to meet all requirements of the new TLMP while still moving ahead with the original project.

There is demonstrated mill capacity in the region to process the logs, if a supply of timber is available. There is a projected need for the timber from this Project Area (see Appendix A of the Final EIS), to help provide stability within a fluctuating market demand (Morse, 1995). A substantial component of the economy of Southeast Alaska is dependent on the timber industry.

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Figure Summary-1
Project Area Vicinity Map



Decision to be Made

The decision to be made will include:

- the approximate acreage to be treated in this Project Area, in multiple timber sales,
- the location and design of timber-harvest units including reserve areas,
- the location and design of road systems,
- the location and design of the log-transfer facilities,
- mitigation measures and enhancement opportunities for resources other than timber,
- whether or not there may be a significant restriction on subsistence use, and if so, related findings and measures to minimize impacts on subsistence users,
- whether or not to approve a nonsignificant TLMP amendment by moving the small old-growth reserve from Mop Point at the north end of Thorne Arm to the narrow isthmus just south of Gnat Cove,
- whether or not to implement a comprehensive road and culvert maintenance program based on road-condition surveys conducted in the Project Area, and
- road-management objectives including closures for resource protection.

Public Involvement

Public involvement has been instrumental in identifying issues, formulating alternatives, and influencing the decision. Public scoping and involvement activities for the Project Area are listed in Chapter 1 and Appendix G of the Final EIS.

Notice of Intent (NOI)

A Notice of Intent was published in the Federal Register on May 9, 1997, when it was decided that an EIS was to be completed for the Project.

Public Mailing

On May 1, 1997, a letter providing information and asking for input was mailed to 623 individuals and groups that had previously shown interest in National Forest timber projects in Southeast Alaska. The mailing included 8 Federal agencies, 18 State agencies and divisions, 67 Native and municipal government offices, 213 businesses and other organizations and groups, as well as individual citizens. By the close of scoping, 49 responses to this initial mailing were received.

Local News Media

Announcements about the Project were printed in the Ketchikan Daily News, Island News, Wrangell Sentinel, Sitka Sentinel, Petersburg Pilot, and Juneau Empire. A scoping letter describing the Project was placed in the May 10, 1997 Weekend Edition of the Ketchikan Daily News. A news release was issued to all Southeast Alaska news outlets (radio/TV/newspaper) on April 28, 1997, that described the Sea Level Project and how the public could be involved.

Open-House Meetings

Two open-house public meetings were held during the scoping period to solicit comments.

Briefings/ Consultation Additional briefings were held from April 1997 through February 1998, to provide information, and clarify issues and alternatives for individuals and organizations. Consultation with Tribal, local, State and Federal government agencies also occurred during this time.

Preliminary Issues and Alternatives

A news release was issued on October 23, 1997, and then subsequently, an article regarding an upcoming open interdisciplinary meeting (IDT) meeting to discuss preliminary issues and alternatives, was featured in the Ketchikan Daily News on October 29, 1997. A letter, similar to the news release, was mailed on the same date to anyone who had submitted scoping

comments. The Meetings and Brevities section in the October 30 and 31, 1997 Weekend Edition of the Ketchikan Daily News announced the open IDT meeting.

Availability of Draft EIS for Public Comment

Availability of the Draft EIS was announced in the Federal Register on June 12, 1998, with a deadline for public comment listed as August 7, 1998. Written or verbal comments from interested parties were collected during this minimum 45-day comment period.

Subsistence Hearings

Subsistence hearings on the Draft EIS were held at the Saxman Community Hall Annex on July 16, 1998 and at the Metlakatla City Council Chambers on August 1, 1998. Open houses to describe the analysis process and to answer public questions were held in conjunction with the subsistence hearings. Public comment on the Draft EIS was also accepted at that time. Dates, times, and locations were publicized in the local media.

Analysis and Incorporation of Public Comments

Public comments and subsistence comments have been analyzed and incorporated into the Draft EIS. For the Forest service response to public comment, see Appendix G in the Final EIS

A letter was sent February 18, 1999 to interested parties, to solicit public comment on the proposed change in the location of a small old-growth reserve. These comments and the Forest Service response have been made a part of the Record of Decision.

The Final EIS has been filed with the Environmental Protection Agency and is available to the public.

Summary of Changes Between Draft and Final EIS

The changes between Draft and Final EIS are displayed in Chapter 2 of the Final EIS. Changes to individual units are reflected in Appendix 1-Unit Cards of the Record of Decision (ROD). For units not in the Selected Alternative, unit cards can be found in the planning record.

Alternative 7 was created and incorporates many of the attributes of Draft EIS Alternatives 3 and 4. The attributes that were not incorporated into Alternative 7 were already covered in other alternatives, for example wildlife values in Alternative 5. The introduction of Alternative 7 allowed that Alternative 3 and 4 be dropped from consideration. Alternative 6 was also dropped from consideration as explained in Chapter 2; it was incorporated into other alternatives and the decision maker could select portions of any alternative.

Key Issues

Based on responses to public scoping and internal concerns, we refined the list of issues into key issues. These issues are within the scope of Project analysis and were used to create different action alternatives. Additional information can be found in Chapter 3 of the Final EIS.

Issue 1 Timber Harvest Economics and Supply

This issue encompasses public concern over: the amount of timber available and proposed for harvest, methods of timber harvest, and balancing timber production with other Forest uses. It includes the issue of how the Project Area contributes to the timber supply. It also includes concern for ensuring cost-effective timber harvest.

Issue 2 Fish Habitat, Water Quality, and Soils

This issue reflects concerns about sediment transport, oversteepened slopes, and fish habitat. There is no measurable effect on water quality or fisheries production by any of the timber harvests or associated activities proposed by any of the action alternatives.

Issue 3 Recreation and Scenery

This issue addresses concerns for outdoor recreation and scenery opportunities offered in and around the Project Area, and the effects timber harvest and transportation system development may have upon these opportunities. All alternatives have similar effects on the Recreation Opportunity Spectrum (ROS) within the Project Area.

All alternatives meet the TLMP visual-quality objectives, as specified from the priority travel routes, use areas, and their viewsheds. Key viewsheds of these priority travel routes and use areas include: (1) Carroll Inlet, (2) Thorne Arm, (3) Saddle Lakes, and (4) the Fish Creek Cabin at the mouth of Fish Creek.

Issue 4 Wildlife

This issues reflects the concern for the potential reduction in wildlife-habitat capabilities for key Management Indicator Species (MIS) found in the Project Area. The Wildlife section of Chapter Three in the Final EIS discusses these concerns in detail.

The major effect on wildlife habitats in all action alternatives, is the reduction of old-growth forest habitat. Impacts to other habitats were reduced by the interdisciplinary design of units, prior to alternative formulation. All action alternatives result in impacts consistent with the implementation of the TLMP standards and guidelines.

Issue 5 Subsistence

This issue reflects public concern for the availability of wildlife, marine life, and plants for customary and traditional use by rural Alaska residents. Chapter 3 of the Final EIS evaluates the potential, site-specific effects on subsistence that could result from implementing any of the proposed timber harvest and associated road construction alternatives.

The Tongass Resource Use Cooperative Survey (TRUCS) identified areas which are most heavily used by subsistence households. Based on the TRUCS, the Project Area contains no high or moderate use subsistence areas. High and moderate use is interpreted to mean greater than 50 households ever used the area for subsistence deer hunting.

Issue 6 Socioeconomic Effects

This issue reflects concern about economic development and employment, and about maintaining Alaskan life-styles. Social and economic effects are important to the Forest Service in its land-management decision making. Land-Use Designations, scheduling of activities, and rural-development program decisions are all made with consideration of the social and economic effects.

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Issue 7

Marine Environment

This issue reflects the concern over bark deposition and other impacts related to construction and use of LTFs. Direct effects to the marine environment occur only from development and use of LTFs. The direct effects are limited to the intertidal area affected by rock fill, and the intertidal or subtidal areas potentially affected by accumulations of bark debris.

The Marine Environment section of Chapter 3 in the Final EIS displays: the number of LTFs used or developed, the total acreage of the structural embankment, and the estimated acres to be affected by bark deposition. The combination of the marine habitat covered by the structural embankment and the area potentially covered by bark deposition, represents the maximum loss of marine benthic habitat based on the limits imposed by the permits for each LTF.

The No-Action Alternative would have no measurable additional effect on the marine environment, while Alternatives 2, 5, and 7 affect the marine system in a similar fashion to each other. The loss of habitat is much less than 1 percent of the available marine habitat in the Project Area. Since all species identified along the subtidal (underwater) survey transects are common throughout Southeast Alaska, it is concluded that there would not be a significant impact to the marine environment from constructing (or continuing to use) LTFs at the proposed sites.

Alternatives Eliminated from Detailed Consideration

A number of alternatives were examined, but not considered for detailed study in this EIS. This section summarizes those alternatives and the rationale for not considering them further. For a more complete description of these alternatives, refer to Chapter 2 of the Final EIS.

Alternative A

Single Resource or Issue

Alternatives that focused solely upon one resource or issue were eliminated from consideration as implementable alternatives. While alternatives constructed around a single resource may not be implementable, the issue itself may still be significant. Each alternative is evaluated against all the significant issues.

Alternative B

Shelter Cove Road Connection

The proposed Shelter Cove road connection is a separate project independent of the Sea Level Project. The road link project is a reasonably foreseeable but unconnected action. The Federal Highways Administration the lead agency. The preliminary preferred road connection alternative routes have been identified, and are located almost entirely outside the Sea Level Project Area. The two proposed actions appear to be connected because of the potential road locations and opportunity to haul harvested timber back to Ketchikan. The dissimilar time lines do not make the road connection available for the Sea Level Project. Preliminary analysis also indicates that the log haul back to Ketchikan by a connecting route would be uneconomical.

Alternative C

No New Road Construction

Several commentators asked the Forest Service to minimize or avoid the construction of new roads within the Project Area by harvesting only timber that is accessible from existing roads. An alternative of this nature would not meet the intended purpose and need of the Project. It would not be possible to access much of the suitable timber within the Project Area without new roads. This would consequently result in concentration of harvest on existing roads and areas close to potential helicopter drop points. This alternative would also adversely affect future economics of the suitable acres farthest from the road system by isolating them.

Sea Level ROD Summary ■ 7

Alternatives Removed Between Draft and Final EIS

Alternative 3

The emphasis of this alternative was to provide the greatest potential for economic timber harvest. The location of harvest units, and selection of silvicultural prescriptions, logging systems, and transportation network are aimed at maximizing the appraised timber value. Following IDT analyses and deliberations, much of the emphasis and intent of Alternative 3 was incorporated into Alternative 7. It was also decided that to a large extent, Alternative 3 duplicated the emphasis and intent of Alternative 7 and was dropped from consideration and analysis in the Final EIS.

Alternative 4

The emphasis of this alternative was to meet the purpose and need while minimizing timber harvest in the Minx Flat area. No harvest units were selected in the Minx Flats area to maintain more connected habitat between the Carroll Point Medium Old-Growth Reserve and Misty Fiords National Monument, and also to address marten concerns in VCU 7560. Alternative 4 also avoided harvest in the Sea Level Creek watershed. Following analysis, much of the emphasis and intent of Alternative 4 was incorporated into Alternative 7. It was also decided that to a large extent, Alternative 4 duplicated the emphasis and intent of Alternative 5 and was dropped from consideration and analysis in the Final EIS.

Alternative 6

The objective of this alternative was to respond to public comments suggesting that only Shelter Cove units be considered for harvest at this time. The remainder of the Project Area would be deferred to emphasize other resource values. It was determined that this Alternative did not adequately respond to the stated purpose and need for the Project. The Alternative responded to an issue of a very narrow scope, and therefore, was dropped from consideration and analysis in the Final EIS.

Alternatives Considered for Detailed Study

Four alternatives for making timber available to the timber industry from the Sea Level Project Area were considered in detail. Each alternative is consistent with the TLMP (1997). This section provides a discussion of: (1) the emphasis or intent of each alternative and (2) various resource outputs associated with implementation. Alternatives are compared and summarized in Chapter 2 of the Final ElS.

Alternative 1 (No Action)

Emphasis

This alternative would not propose any new timber harvest from the Sea Level Project Area at this time. It does not preclude timber harvest from other areas at this time, or from the Sea Level Project Area at some time in the future. This alternative serves as a benchmark by which effects of the action alternatives can be measured.

Outputs

There are no timber harvest outputs associated with this alternative. Management for visual quality, wildlife habitat, and semi-primitive recreation outputs would continue as it currently exists.

Alternative 2

Emphasis

This alternative accelerates progress toward the desired future condition for timber production while meeting TLMP standards and guidelines. The maximum amount of timber volume is made available. This alternative is designed to harvest as much of the Project Area as possible in a manner that meets standards and guidelines.

Outputs

This alternative would schedule the harvest of 2,857 acres, in 105 units for approximately 71 MMBF. Of this, 437 acres are planned for two-aged shelterwood with reserves, 1,140 acres are planned for two-aged clearcut with reserves, 348 acres are planned for even-aged clearcut, and 932 acres are planned for even-aged clearcut with reserve. It schedules 282 acres for helicopter yarding. There are 1,391 acres planned to be placed in reserves in this alternative. To implement this harvest, 51 miles of new road would be constructed, and 24 miles of existing road would be reconstructed. Road clearing will yield an

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additional 6 MMBF of right-of-way (ROW) volume. Preliminary analysis indicates a net mid-market stumpage value of \$86 per thousand board feet (MBF).

The use of three existing LTFs will be required to implement this alternative. Floating or land-based logging camps and log sort yards are anticipated with the Shelter Cove, Shoal Cove, and Elf Point LTFs.

Alternative 5

Emphasis

The emphasis of this alternative is to meet the purpose and need while avoiding timber harvest in the Minx Flats, Elf Point, and Marble Creek areas. This alternative minimizes harvest in the Minx Flats area to address wildlife-habitat-connectivity concerns in that area.

Outputs

Alternative 5 schedules the harvest of 30 units totaling 20 MMBF, from 867 acres. Of this harvest, 49 acres are planned for two-aged shelterwood with reserves, 234 acres are planned for two-aged clearcut with reserves, 76 acres are planned for even-aged clearcut, and 508 acres are planned for even-aged clearcut with reserves. It schedules 54 acres for helicopter yarding. There are 406 acres planned to be placed in reserves in this alternative. This alternative requires the construction of 17 miles of new roads and 17 miles of reconstruction. Road construction clearing will yield an additional 2 MMBF of ROW volume. Preliminary analysis indicates a net mid-market stumpage value of \$72 per MBF.

The use of two existing LTFs will be required to implement this alternative. Floating or land-based logging camps are anticipated with the Shelter Cove and Shoal Cove LTFs.

Alternative 7

Emphasis

The objective of this alternative is to emphasize timber economics by harvesting stands with the greatest potential for economic return, while addressing wildlife-habitat connectivity concerns. The location of harvest units, and selection of silvicultural prescriptions, logging systems, and transportation network are aimed to maximize the appraised timber value. This approach emphasizes a positive net economic return for the Project by seeking to minimize logging and road construction costs. This entry proposes only limited helicopter timber harvest. This alternative attempts to minimize impacts to old-growth habitat, wildlife travel corridors, riparian habitat, and wetlands.

Outputs

Alternative 7 schedules the harvest of 68 individual harvest units, totaling 47 MMBF, from 1,828 acres. Of this harvest, 63 acres are planned for two-aged shelterwood with reserves, 665 acres are planned for two-aged clearcut with reserves, 177 acres are planned for even-aged clearcut, and 923 acres are planned for even-aged clearcut with reserves. There are 1,006 acres planned to be placed in reserves in this alternative. The alternative would require the construction of 30 miles of new road and 18 miles of reconstruction. Road clearing will yield an additional 4 MMBF of ROW volume. It schedules 43 acres for helicopter yarding. Preliminary analysis indicates a net mid-market stumpage value of \$91 per MBF.

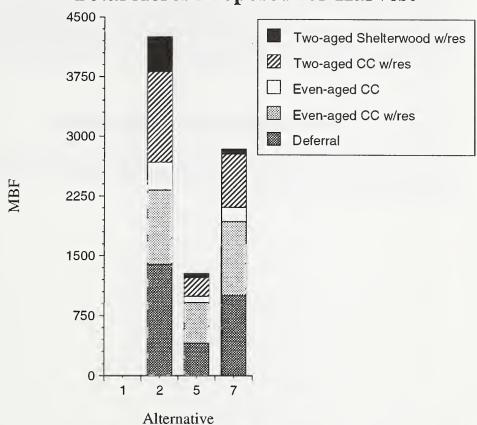
The use of three existing LTFs will be required to implement this alternative. Floating or land-based logging camps and log sort yards are anticipated with the Shelter Cove, Shoal Cove, and Elf Point LTFs.

Table Summary-1 **Summary Comparison of Alternatives**

			Altern	atives	
Activity/Resource	Units	1	2	5	7
Timber					
Units	Number	0	105	30	68
Estimated harvest-unit volume	MMBF	0	71	20	47
Estimated right-of-way (ROW) volume	MMBF	ő	6	2	4
Two-Aged Systems		Õ	ŭ	-	
Shelterwood with Reserves	Acres	ŏ	437	49	63
Clearcut with Reserves	Acres	ő	1,140	• 234	665
Even-Aged Systems	Acres	ő	1,140	234	005
Clearcut	Acres	0	348	76	177
Clearcut with Reserves	Acres	0	932	508	923
Total harvest	Acres	0		308 867	
		0	2,857		1,828
Shovel harvest	Acres	_	130	37	109
Cable harvest	Acres	0	2,445	776	1,644
Helicopter harvest	Acres	0	282	54	74
Estimated net-stumpage (mid-market rates)	\$/MBF	0	85.65	71.55	91.20
Total receipts to State of Alaska	\$Millions	0	4.61	1.42	3.21
Average annual jobs over 4 years	No. of jobs/year	0	150	43	99
Roads and Transportation					
New road construction	Miles	0	50.60	16.90	29.90
Road reconstruction	Miles	0	24.30	17.40	18.00
Roads crossing Class I or II streams	Number	0	18	10	13
Biodiversity					
Corridors connecting old-growth blocks	Acres Harvested	0	28	0	(
Old-growth acres remaining in Project Area	Acres	75,263	72,398	74,387	73,436
Percent of 1954 old growth remaining	Percent	86	83	74,367 85	73,430
Percent of 1954 old growth femalining	reicent	60	63	6.5	04
Wildlife - 1997 Management Indicator Species					
Habitat capability for deer in the Project Area	Population Capability Numbers	3,794	3,590	3,686	3,641
Habitat capability for marten in the Project Area	Population Capability Numbers	145	138	143	140
Habitat capability for gray wolf in the Project Area	Population Capability Numbers	11	10	11	11
Subsistence - WAAs 405 and 406					
Deer habitat capability (percent of 1954)	Percent	67.00	58.00	61.00	60.00
Percent of 1954 needed to support current harvest	Percent	0.70	0.70	0.70	0.70
rescent of 1934 needed to support current harvest	reicent	0.70	0.70	0.70	0.70
Ecological Landtypes					
Very high mass movement	Acres Harvested	0	0	0	(
High mass movement	Acres Harvested	0	1,367	283	649
Wetlands harvested	Acres	0	914	309	556
Wetlands roaded	Miles	0	34	12	22
Doodless Awar					
Roadless Areas	A	47 500	24.000	44.554	44.00
Roadless area remaining	Acres	47,588	34,868	44,776	44,777

Figure Summary-2
Total Acres Proposed for Harvest





Mitigation

Mitigation measures are prescribed to avoid, reduce, minimize, or eliminate the adverse effects of actions. These measures were applied in the development all Project alternatives and in the design of the harvest units and road corridors. The Mitigation Measures section of Chapter 2 of the Final EIS discusses the mitigation measures for all alternatives.

Mitigation measures applicable to the Selected Alternative include those contained in the standards and guidelines of the TLMP, Alaska Regional Guide, and applicable Forest Service Manuals and Handbooks. The ROD Appendices 1 and 2 include Unit Cards and Road Cards which incorporate site-specific mitigation. These measures are adopted as part of this decision and will be implemented. Measures to avoid or minimize adverse environmental effects of the Project have been incorporated into the Selected Alternative.

Forest Service Preferred Alternative

The Forest Service compared the benefits and adverse effects of each alternative against the issues. The Preferred Alternative is Alternative 7. A final selection of an alternative has been made by the Assistant Forest Supervisor in the ROD.

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To file a complaint, w 202-720-1127 (TDD).

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